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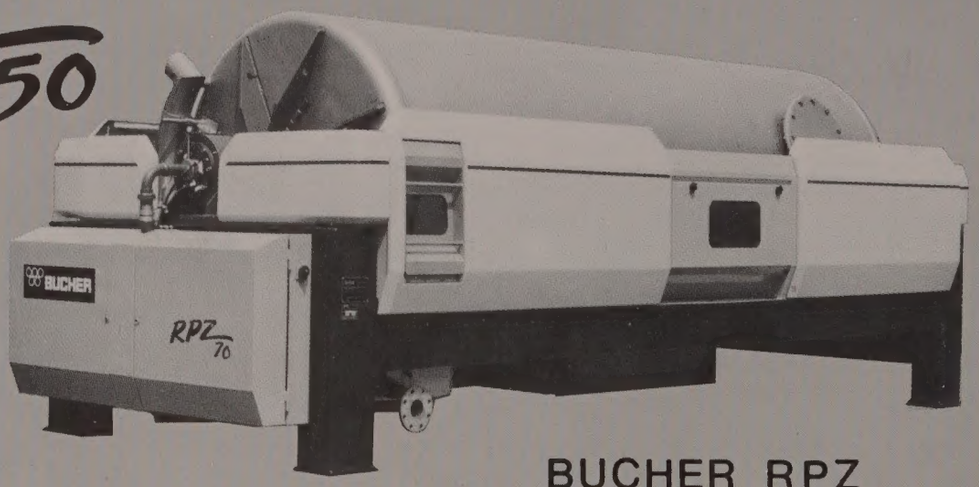

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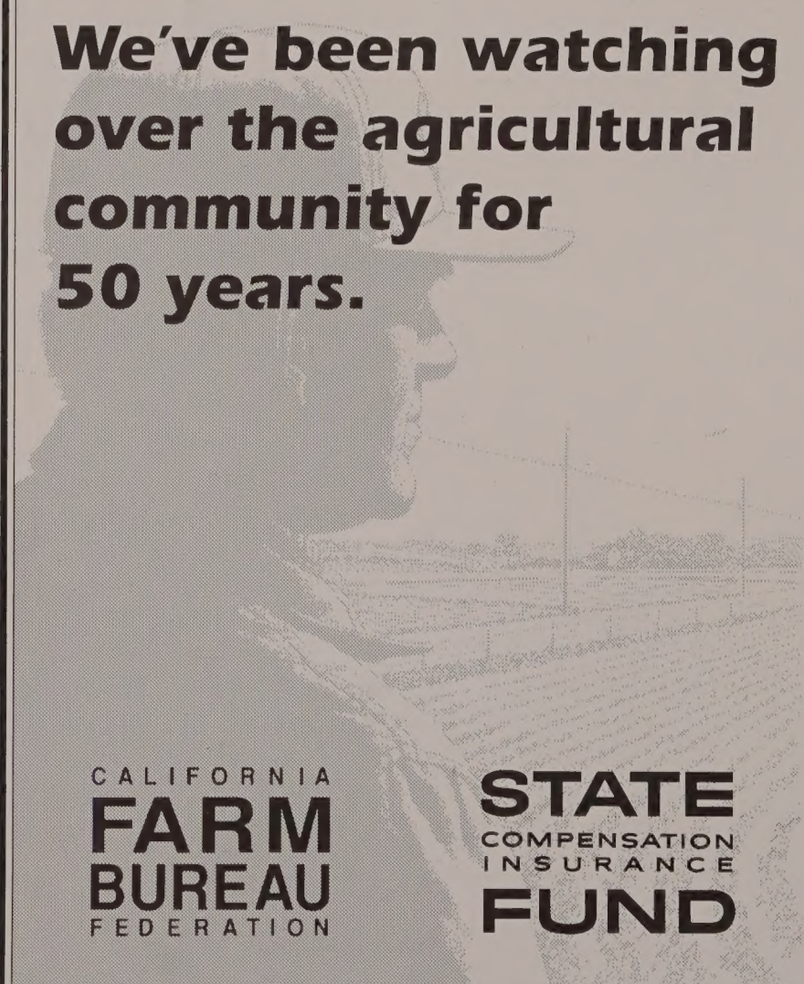

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NEW wire-lifter

Domaine Chandon, (Napa Valley/Carneros, CA) has purchased the new AIM Inc. wire-lifting and tying machine to reduce the labor-intensive vineyard chore of moving foliage wires to a one-man operation, covering one acre/hour.

The practice of lifting trellis wires to support heavy foliage has proven beneficial for training young vineyards, pest control, and mechanical harvesting. Traditionally, workers were hired to lift the wires and place them on nails or brackets on trellis posts.

With this new machine, wires on both sides of the vine row are lifted to the desired height and then clipped together with a biodegradable plastic staple. A pair of adjustable topping cutters simultaneously trim off excess foliage. Special care has been incorporated into the design: trellis wires are spread wide before entering the stapling head, thus gently lifting the vegetation without damage to the delicate buds, shoots, or bunches.

The stapling mechanism can be operated automatically or manually. Staples come in interchangeable spools of 1,000. Each spool will last approximately one hour, under average vineyard conditions. Distance between staples can vary from six to 12 feet, depending on the type of vegetation.

"We still have a lot to learn about the technique and timing of the wire-lifting machine," says Zach Berkowitz, vice-president of Domaine Chandon vineyard operations. "If we can get by with one pass to position and trim the foliage, we can justify the machine over 200 acres during the three to four week period of use after bloom. These estimates include manually dropping the pair of wires after harvest, before pruning.

"As we do more replanting, training, shoot thinning, and leaf removal during the May/June period, replacing a wire-lifting crew with a tractor and implement lets us do more work with less people at the busiest time of the year."

Upon entering the vine row, rotating plastic fingers automatically lift the trellis wires onto the machine. When the machine leaves a vine row, the wires are automatically released.

"Positioning and trimming at the same time is a big advantage," noted Berkowitz, "as positioned foliage never gets a chance to flop over or fall out of the wires. Finally, the ergonomics of driving a tractor are a lot better than manually lifting heavy foliage. Hopefully, we can eliminate some potential workers' injuries in the future.

"Upon delivery of the machine in 1993, we were able to do a total of about 100 acres on three different ranches: Carneros, Lakeville, and Yountville. In the future, we hope to be able to have one of these machines on each of the three ranches."

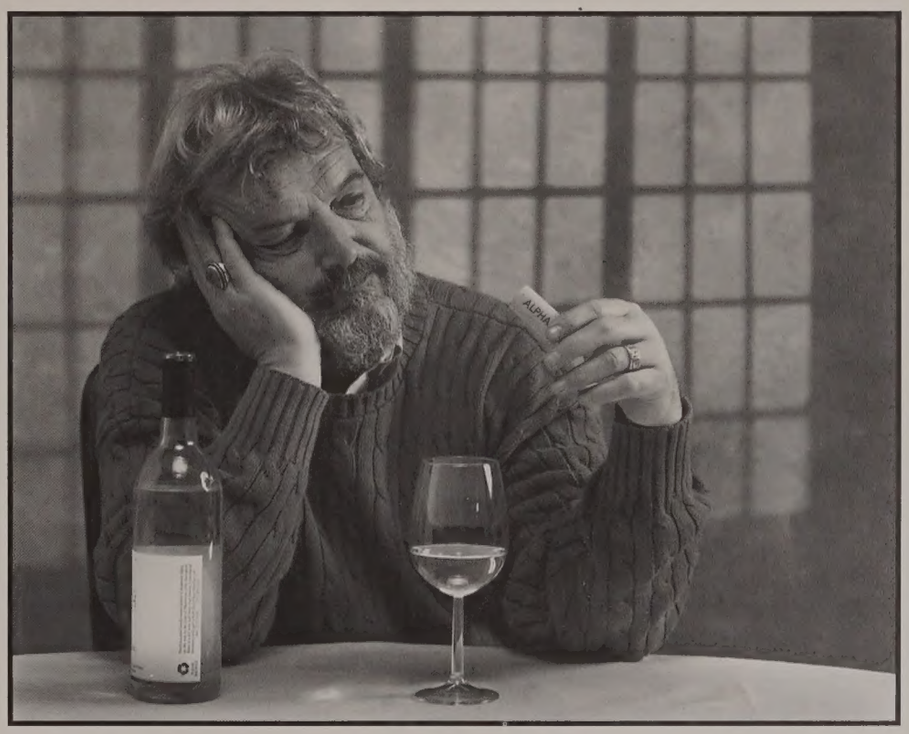
Developed in France by Pellenc, S.A., and modified for use in California vineyards by AIM, the wire-lifting and tying machine can be mounted on a variety of tractor models and can accommodate a wide range of row widths.

Powered by the tractor's hydraulic system, this machine easily adapts to varied field conditions by means of electronic controls.

Properly trellised vineyards, with quality wires and posts, are essential for success. The machine can accommodate all types of posts, with the exception of cross-arms.

Tension of the foliage wire is critical. The use of a high-tensile foliage wire of 13 to 16-gauge galvanized wire, similar to drip line wire, is recommended.

A videotape of the machine in operation is available from AIM Inc., PO Box 53, Lodi, CA 95241, tel: 209/369-1994, fax: 209/333-0736. ■



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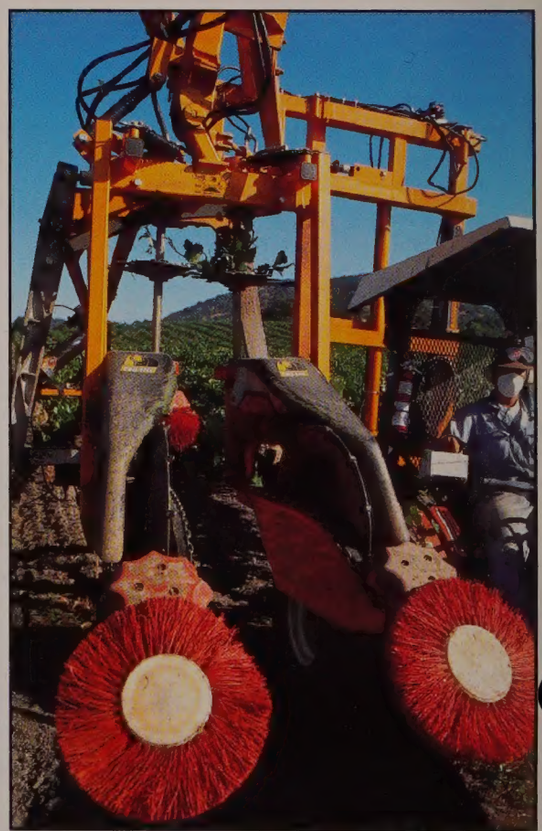
COVER PHOTO BY: Fred Lyon

Two fruit zones of the Smart-Dyson trellis 48

Wire lifting machine on front cover



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PART II

A closer look to understand phylloxera

By Lucie T. Morton

(Part I appeared in the September/October'93-PWV.)

Phylloxera life cycle

The insect's life cycle can be viewed as one or two types of continuous loops. The underground loop involves phylloxera populations that feed on vine roots and reproduce parthenogenetically. An expansion of this loop occurs when some of the insects come into open air and are transformed into several different forms of aerial phylloxera, some of whom return to the roots to complete the cycle.

We will begin the discussion of the insect's complicated circuit from the roots to the shoots and back at the stage where a few phylloxera grow wings. Phylloxera's winged form initiates the sexual phase in the life cycle and creates a population of phylloxera that lives on the leaves.

Wings and males: Only above ground

Under favorable environmental conditions in late summer, phylloxera nymphs living on vine roots will emerge from the earth and develop into phylloxera's winged form. The winged form is female, about 1.1mm to 1.25mm long, and has a life span of only a few days. She is heavy and not very aerodynamic, but can be transported long distances by the wind.

Flight increases the pest's ability to spread into new areas, but is not critical to the survival or the dispersal of the insect. Winged phylloxera die after laying several eggs that are one of two types: male or female. The male eggs are smaller (avg. 270 microns long) than the female eggs (avg. 400 microns long). These eggs hatch in about six days (Maillet 1957) and after reaching adulthood engage in a brief period of heterosexual activity.

The mating period is brief because one notable feature of these males and females is that they have no feeding apparatus. They can mate, but they cannot eat! They also do not live long. The males die soon after mating with a number of females. Each female lives just long enough to produce a single, remarkably large egg which she deposits in the safety of the bark of the vine trunk. These eggs are called 'winter eggs.'

Each fertilized winter egg will hatch the next season into a distinct form of female, known as the 'fundatrix,' that feeds on the surface of a young leaf, causing a gall to form on the bottom of the leaf. Into this leaf gall she will deposit about 600 eggs. After hatching, the young phylloxera will crawl onto new leaf tissue and make galls of their own; some, however, will move down to start a new life on the roots.

Aerial phylloxera: Life on the leaf

Phylloxera living on leaves, young shoots, and tendrils are called *gallicolae*. When they poke their feeding apparatus into plant tissue, it causes the surrounding tissue to swell and form galls. The saliva of the aphid contains the growth hormone indoleacetic acid (IAA), considered to be one factor in the complex and not completely understood mechanism of gall formation (Granett 1990).

The galls are round, ranging in size from 1mm to 5mm. Slicing into an active gall, one sees a yellow interior filled with a few mothers and hundreds of oval eggs. These eggs will grow into adults up to 1mm long and half as wide, whose color varies from yellow to brownish depending on age and food supply. An adult gallicola lays about 500 to 600 eggs in her lifetime.

Leaf galls are clearly visible, even from a distance, and their exterior color depends on the host *Vitis* species. The galls are green throughout the season on vines with *V. riparia* or *riparia-berlandieri* parentage. When *V. rupestris* is in the parentage (*rupestris-berlandieri, riparia-rupestris*), phylloxera galls turn from green to bright red.

Although they are not deadly, phylloxera's leaf galls can impair vine growth sufficiently to require preventive sprays. Foliar phylloxera is a perennial problem for U.S. and Canadian growers east of the Rockies, but extremely rare in California. Environmental conditions appear to control degree to which there will be aerial as well as root phylloxera in a region.

Root phylloxera: Life on the root

Yellowish colonies of phylloxera, called *radicolae*, can be visible to the naked eye on newly-dug roots; a 10X magnification distinguishes the individuals and eggs (mothers and daughters). Evidence that phylloxera is causing root damage on susceptible vines is first seen in the foliage.

In spring, affected vines show a lack of active growing tips and tendrils. Other symptoms during the growing season are stunted shoots with shortened internodes, and mottled, desiccated leaves that drop prematurely. The symptoms become progressively worse over the several years it usually takes for the vine to die.

When vines weaken and die, the phylloxera must move on to healthy ones for a new source of food. Areas dying from phylloxera expand in circular pattern, in spite of the linear movement of cultivation equipment. A tractor does not spread the insect at anywhere near the speed that it can move itself in its subterranean search for new food.

When the ground warms in spring and the root sap starts to flow, hibernating phylloxera become active and adult females begin laying bright yellow eggs. Phylloxera activity is closely related to vine activity.

Phylloxera on early bud-breaking varieties, such as Merlot, will become active sooner than phylloxera on later varieties, such as Cabernet Sauvignon (De Klerk 1974). This makes sense since phloem sap feeds both phylloxera and the vine.

New eggs hatch into active larvae,

Excerpts from:
Roots for Fine Wine — Rootstock selection beyond phylloxera

known as crawlers, which immediately start moving around in search of food, travelling from root to root or vine to vine. After molting three or four times, they reach adulthood. An adult female will lay eggs every day for most of her life. The reproduction cycle repeats itself, and there can be from three to eight generations during the growing season.

In an optimum environment, with unlimited succulent and susceptible roots, one adult female phylloxera could produce: 250 daughters; 62,500 granddaughters; 15,625,000 great-granddaughters; 3.9 billion great-great granddaughters in a single season of four generations.

Only about 10% of these young aphids could be expected to survive the winter, so the family's fifth generation would start out the following spring with only 390 million new mothers! Of course, nature has its checks and balances for phylloxera as for all creatures, so actual numbers in a given setting are highly variable.

Effects of phylloxera feeding: tolerable galls and fatal galls

Roots attacked by phylloxera reveal two characteristic types of galls called ***nodosities*** and ***tuberosities***. An awareness of the difference between these two types of galls is critical to understanding how phylloxera can be more or less harmful to grapevines: ***nodosities can be tolerated, but tuberosities can be deadly***. The extent and type of galling that occurs from phylloxera feeding is largely dependant on the genetic make-up (genotype) of the host vine.

Nodosities: when phylloxera feeds on rootlets

The finest, youngest (no more than one-season old) roots are called rootlets or feeder roots. Grapevines are continually forming these short-lived rootlets; a typical vine will produce tens of thousands of them throughout the growing season (Winkler *et al* 1974). When rootlets, or the immature tips of large branch roots, are attacked by phylloxera, they react at first by swelling into galls called ***nodosities***. These galls often have a characteristically crooked shape resembling a crochet hook or bird's head.

Affected rootlets eventually become dysfunctional and the galls blacken and rot at the end of the season. By and large, however, nodosities are not considered particularly harmful to vines (Stevenson 1968). In fact, ***nodosities are a fairly common occurrence on phylloxera-resistant stocks***.

Merely counting the number of nodosities on vine roots is not an accurate way to test resistance either in the field or in the laboratory.

In pot studies, nodosities can take on an exagerated importance. When there are many nodosities on the rootlets, some researchers have correlated high levels of nodosity galling with low 'resistance.' Because the number of nodosities does not accurately indicate either phylloxera resistance or lack of it, grape growers should be extremely careful about extrapolating practical guidance from these studies.

Tuberosities: when phylloxera feeds on mature roots

When the insect feeds on mature roots, the galls created are known as ***tuberosities***. Viewed under a microscope, tuberosities show varying degrees of penetration into the root depending on the vine species and variety.

On resistant roots, tuberosities remain shallow and the galls are sloughed off along with the bark, before interfering with the flow of water and nutrients through the vascular system. I liken this tuberosity 'shedding' response to that of the scabbing over of wounds in animals.

By contrast, when phylloxera feeds on the roots of susceptible varieties, the galls penetrate deeply into the center of the root, impeding the flow of sap. Susceptible roots do not respond by walling out the tuberosity. As a result, they cannot repair the damage caused by phylloxera feeding. The tuberosity and surrounding tissue rot, the root becomes dysfunctional, and the vine loses a portion of its supply and support system.

A critical measure for relative susceptibility of the vines to phylloxera is the number, and especially the depth, of tuberosities (Boubals 1966, Pouget 1975).

Location of the tuberosities is also a factor in how seriously their decay will affect vine functioning. Obviously, on the same root, tuberosities nearest the trunk are more serious than those on more remote portions of the root.

Measuring phylloxera resistance

Biologists often determine a plant's suitability as a host by measuring the number of offspring an insect can produce on it. This can be confusing when it comes to understanding phylloxera resistance. The confusion arises because some phylloxera-resistant vines are also excellent hosts to the pest.

In a French study, two rootstocks with good practical resistance, Rupestris du Lot and 5BB, were 'better hosts' (provided the pest with better food and lodging) than were some susceptible varieties (Boubals 1966).

Ideally, the perfect rootstock would be one that totally repels the insect, neither feeding it nor allowing it to reproduce. Unfortunately, the only grapevine species with roots that are immune — or a nonhost — to phylloxera is *Muscadinia* (formerly *Vitis*) *rotundifolia*, best known in the southern U.S. for Scuppernong grapes.

Rotundifolia's pest-proof roots have largely been useless in the world of viticulture because the woody cuttings do not root and do not graft with other *Vitis*. This leaves us with rootstocks from *Vitis* species that nourish phylloxera, but tolerate the feeding in varying degrees. Presently, the key to practical resistance in the vineyard lies in how the roots respond to phylloxera feeding, and not whether they support some population of the pest.

For the purposes of my book, I will adopt the following usages for these two key terms:

Resistant: The pest may or may not thrive, but ***your vines will survive***.

Susceptible: ***Your vines will suffer and die prematurely*** due to the presence of the pest. Qualifiers like 'moderately' or 'very' susceptible may be used to indicate the relative rapidity of the vines' decline and demise.

Unlocking the mystery of resistance

For nearly a decade (1890s), Louis Ravaz directed the replanting of France's Cognac region on lime-tolerant rootstocks. Ravaz found an ingenious way to study tuberosities separately from nodosities, that could be accomplished only under the controlled conditions of a laboratory.

Based on his studies of the number of tuberosities, their depth penetration, and thickness of the root bark, Ravaz concluded the following:

"What stands out in this experiment is the superiority of Riparia Gloire, the *rupestris* varieties, and most of the Americo-American hybrids studied. The first carry some tuberosities, but not on two-year-old roots; mostly they form on

the youngest roots. When they are found on two-year roots, they are very shallow.

"On the *vinifera*-American varieties studied, there are tuberosities both on small roots and perhaps even more on the large ones. This character comes no doubt from *V.vinifera*, the roots of which are attacked along almost their entire length at the same time.

"In addition, the tuberosities are more deeply penetrating, whereas on the American vines studied they were either non-penetrating or not much deeper than the thickness of the bark shed normally by the root" (translated by LTM from Ravaz 1897).

Thus Ravaz called into question the phylloxera resistance of *vinifera* x *rupestris* varieties such as AXR-1 and 1202-C, which at that time were widely-planted throughout Europe and North Africa. His findings did not appear to cause alarm however, because they were considered to be of more theoretical interest than of practical concern.

Between 1910 and 1925, Aramon-Rupestris Ganzin and other *vinifera* x *rupestris* rootstocks would fail on a massive scale in Europe, North Africa, and South Africa.

Thus, in a laboratory in 1896, Ravaz discovered the Achilles' heel of most rootstocks with *vinifera* parentage. It took an additional 10 to 20 years for strains of phylloxera to develop that would expose this weakness in the vineyard. The evidence now suggests that *vinifera* should mostly be avoided as a rootstock parent. It also suggests that all new rootstocks need testing in the greenhouse, and long-term field testing.

Different strains of phylloxera

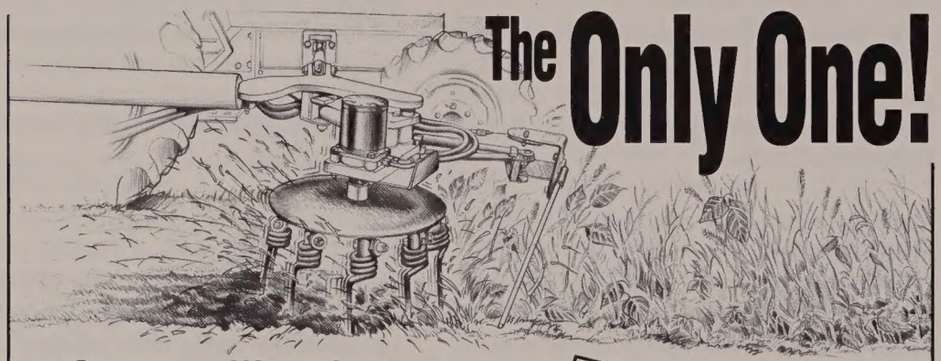
Phylloxera has a complex life cycle that is strongly influenced by temperature, relative humidity, host vine genotype, and even host age.

Therefore, the length of time that susceptible grapevines survive in the presence of phylloxera varies from place to place. The same population of phylloxera will behave differently under different climatic conditions and that same population will behave differently on different host vines (Maillet 1957).

Conversely, recent research shows that different populations will behave differently in the same place, under the same climatic conditions, and on the same host vines (Fergusson-Kolmes and Dennehy 1991). Scientists have investigated the existence of different races or strains of phylloxera which are also called biotypes.

Some of the early biotype research, such as that of Carl Boerner of Germany, has been quite controversial. About 1913, Boerner proposed that there were two distinct races of the insect (northern and southern) and that one was more virulent than the other. Subsequent studies have demonstrated flaws in Boerner's particular view of phylloxera biotypes (Husfeld 1963).

Within a native range as large as North and South America, one would expect considerable diversity within the phylloxera population, just as there is considerable diversity in the wild grape-



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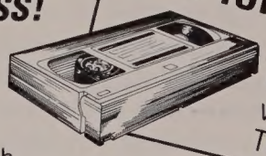

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vine population. Research has shown that different strains of phylloxera may be found within a particular geographic region.

Experiments using phylloxera strains from Germany and New Zealand showed strong evidence that the populations differed in their galling (nodosity) abilities (King and Rilling 1985).

Researchers in California have studied phylloxera biotypes ('Types A' and 'Type B') which have different developmental rates, fecundity, and life-history characteristics when placed on excised roots of the same variety (Granett *et al* 1985).

It is likely that further research will show that there are not enough letters in the alphabet to name all the variations among phylloxera colonies in any given vineyard area, due to different soil environments and different host vines.

It seems clear that phylloxera biotypes exist. However, their relationship to vine resistance in the field must be carefully defined. The existence of host-based biotypes would help to explain the time delay that can occur between the introduction of the phylloxera and the death of susceptible varieties.

However, the cause of vine death still lies in the Achilles' heel (root) of the susceptible vines. ***Phylloxera will eventually destroy non-resistant varieties,*** like AXR-1 and others with *vinifera* parentage, because the roots lack a defense mechanism to phylloxera feeding discussed earlier.

Although new biotypes may develop which are 'at home' on resistant rootstocks, they can be expected to coexist in a state of benign parasitism, much like American vines and phylloxera have done for a few million years in nature.

Super phylloxera?

To date, no biotype of phylloxera has caused the death of vines grafted to rootstocks of known resistance that do not have *vinifera* parentage. The extensive damage that phylloxera is causing in California vineyards today is due to the use of either own-rooted *vinifera* vines or the use of rootstocks known to have insufficient resistance to the pest.

After extensive research, I have not found any evidence to suggest that growers who select rootstocks classified as resistant to phylloxera need to fear future vine losses to a new super mutant strain of the aphid. And the resistance of these rootstocks appears to be stable over time.

On the other hand, I believe entomologist Kerry Harris had a good point when he said, "The problem with our knowledge of grape phylloxera is that the agricultural solution came too quickly. We found the solution before we understood the problem." (PC 1992)

Therefore, I believe that the grape industry should maintain vigilance with regard to this pest in the form of funding for basic research into phylloxera resistance.

In addition, we should support research on other root pests and diseases, development of new rootstocks, and maintenance of long-term rootstock trials. Research expenditures today may well prevent another viticultural armageddon tomorrow. ■

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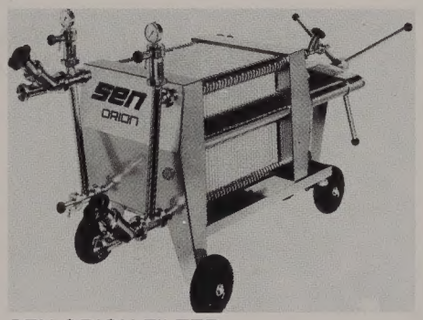

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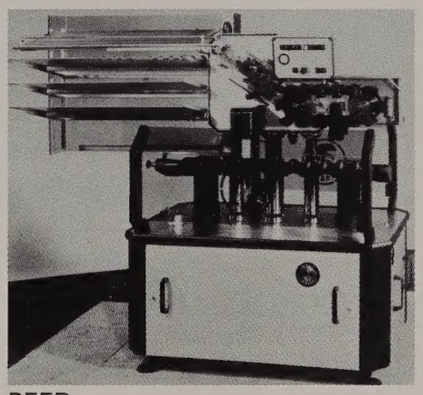
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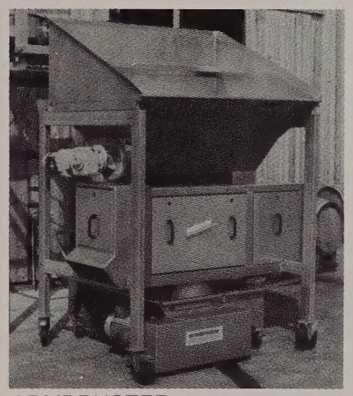
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WIN 9

Advancements in processing Portuguese corks

By Don Neel, Editor/Publisher-*PWV*

Modern technology and improved quality standards have enabled leading cork producers in Portugal to make significant improvements in the quality of corks shipped to wineries.

In the cork forests

"Virtually no pesticides are used in the cork forests," reports Joao Ribeiro of ACAP, the agricultural office of the Portuguese government responsible for the protection of cork forests. "Although, perhaps a small percentage of the forests received some kind of pesticide from crops grown near them." He is strong in his belief that this did not affect the health of the tree or the integrity of the cork.

Ribeiro confirmed that the forest themselves are very young (85% of the trees being younger than 100 years old), with a projected increase in production for many, many years. The trees themselves are registered with the government — they do not belong to the landowner, but the landowner is responsible for their health and safety, with serious penalties for abuse or neglect.

Short-sighted owners of cork forests since the Portuguese Revolution (1974-1984) had caused damage in their attempts to maximize immediate profits, according to Ribeiro. These include: overgrazing the land with sheep — reducing nutrients in the soil; minimal weeding and maintenance, thus stressing the trees; harvesting separate sections of the tree to gain an immediate increase in production, but stressing the tree in the long-run; and no investment in replanting.

The reduced stature of Portuguese cork forests five to ten years ago was a direct result of bad management by ignorant tenants and the continuing impact of a drought, reports Ribeiro.

At the cork farm of Herdade de Palma,

Tumble washer drum and reservoirs for washing solutions.

Joao Posser de Andrade is experimenting with a rather simple type of natural selection of cork acorns for a test forest. The young trees, now only five to eight years old, should be ready for harvest by age 13 to 15, nearly 10 years ahead of traditional trees.

Andrade is working to improve the strain of the trees they grow — they seek a tree that grows straighter, taller, and quicker, with more disease resistance and fewer branches and smaller crowns. Thus, the trees will produce more usable cork bark, can be grown closer together, and can be harvested by machine. A new mechanical harvester, based on laser technology, is being developed to harvest the new trees.

Dr. Thomas Leydig of UC-Davis is working on a related research project. He is genetically cataloguing all the cork trees in Europe to determine the range of variables which can be used to genetically engineer the cork trees of greatest value for the future.

Chlorine-soak tub for corks.

Tumble washers

The tumble washer and mechanical dryer have been the most important technological improvements. Developed in the last five years, the tumble washer replaces the traditional 'washing' process of immersing and agitating corks in a vat containing washing chemicals.

Previously, depending on the type of wash (chlorine and oxalic acid, etc.), the corks were transferred to another bath to rinse or neutralize the wash. Each soaking may have been done several times before the corks were given a final rinse in clear water and then dried.

Unfortunately, in the traditional process, washing and rinsing were often inadequately or improperly done.

For example, if chemicals were not thoroughly mixed into the bath, the concentration was not uniform, and the result was an ineffective wash or worse. Often, many batches of corks would be washed in the same liquid in the same vat — leading to a dilution of chemicals or potential contamination from one lot to another.

After washing several batches of corks, the neutralizer baths often became diluted and did not effectively neutralize the chlorine or peroxide wash. The same was true of the final rinse water to remove residue.

Traditional vats were constructed of concrete, susceptible to contamination and difficult to clean.

Corks also became contaminated when an employee forgot about a batch of corks left in a vat too long. Timing was critical.

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The tumble washer eliminates some of the potential for human error and many of these problems. Pressure washers spray the different wash liquids through the perforated drum, effectively mixing the chemicals for better consistency of application.

The tumble drum rotates (at variable speeds) the corks through a bath, further mixing the chemicals and avoiding uneven concentrations. The tumble washer can handle between 20,000 to 40,000 units per operation.

A variety of washing chemicals are used such as traditional chlorine/oxalic acid, hydrogen peroxide, citric acid(s), or potassium metabisulphite.

Many people are working on new procedures for washing corks. For example, Carlos Alberto Relvas of Relvas Corticas has developed a wash that involves rinsing the disks for champagne corks in a solution of 18% ethyl alcohol and citric acid at 60°C. He believes that this solution not only cleans the corks, but also helps extract any taint that may come out after the wine is bottled. He would like to increase the percentage of alcohol, if he could find an economically feasible way to do it.

Just as in a washing machine, the wash chemicals are removed and the corks are tumbled dry, removing much of the residue from each cycle of the wash from the corks before the next cycle. At the end of each wash period, the solution is pumped back into a reservoir. During the pump-return, the solution is analyzed by sensors and then chemically adjusted to the proper concentration and pH balance.

The tumble washer is constructed of stainless steel and easy to clean and keep clean. During washing, neutralizing, and rinsing the corks clean, the tumble washer is controlled by a computer which monitors each step, which eliminates the need for constant attention and removes the risk of too much or to little of any step in the process.

Ease of operation of the tumble washer has prompted individual producers and Centro Tecnologico de Cortica (CTCOR), the research organization funded by the cork producers association, wineries, and the government, not only to experiment with new washes and improvements on existing processes, but also to research using the tumble washer to resolve other problems. Experiments include the use of ethanol, citric acid, higher temperatures, and pressure sprays to more effectively clean the corks without damaging their inherent structure.

Washing standards

CTCOR has developed the following recommended guidelines for cork processing. While these are general guidelines, the CTCOR laboratory has spent considerable time researching these processes and analyzing the results.

The Cork Quality Council (CQC) in California, recognizing CTCOR's leadership in this field, provides these general guidelines as a part of the CQC on-going educational efforts on behalf of the cork and wine industry.

Traditional chlorine wash

1. Begin with a tank (without dust) of an aqueous solution super-saturated with calcium hypochlorite. The end result should be a final bath with a maximum total of 30 grams/liter of free chlorine. Submerse the corks in this bath, agitating them for approximately two minutes.
2. Allow the corks to remain at ambient temperature for a period not to exceed two hours.
3. Repeat steps #1 and #2 once or a maximum of twice.
4. Immerse the corks in a bath of clean water, agitating them for two minutes.
5. Submerse the corks in an aqueous solution of oxalic acid at six to eight grams/liter, agitating them for a period of approximately two minutes.
6. Immediately centrifuge the corks, and then dry them until the moisture level becomes stabilized at a moisture content between 6% and 8%.

Hydrogen peroxide (H_2O_2) wash

1. Submerse the corks in an aqueous solution containing 10% hydrogen peroxide and 3% (by volume) of commercial ammonia, agitating the corks for approximately five minutes.
2. After removing the corks from this bath, allow the corks to remain for 30 minutes at ambient temperature.
3. Immerse the corks in clean water for two minutes, agitating them.
4. Submerse the corks in a solution of 1% citric acid by weight, agitating them for approximately five minutes.
5. Immediately centrifuge the corks, and then dry them until the moisture level becomes stabilized at a moisture content between 6% and 8%.

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Potassium metabisulfite (SO_2) wash

1. Submerge the corks in an aqueous solution of potassium metabisulfite (1% by weight) for approximately five minutes.

2. Immediately centrifuge the corks, and then dry them until the moisture level becomes stabilized at a moisture content between 6% and 8%.

Sulfamic acid wash

1. Submerge the corks in an aqueous solution of sulfamic acid (2% by weight), agitating the mixture for approximately five minutes.

2. Allow the corks to remain at ambient temperature for 10 minutes after removing them from this bath.

3. Immerse the corks in clean water for two minutes, agitating them.

4. Immediately centrifuge the corks, and then dry them until the moisture level becomes stabilized at a moisture content between 6% and 8%.

Mechanical drying

Moisture control is a critical factor in production of quality corks. About 20 years ago, mechanical dryers began replacing the traditional process where bags of corks were stored in the open air and sunlight for many days. While it might be possible to argue that the sunlight irradiated some of the corks, the risk of contamination from multiple sources is obvious.

Today, many producers have a mechanical dryer, in which the corks travel on a conveyor belt through circulating hot air or under heat lamps or both.

Sometimes uneven drying and inconsistent moisture content are the result. By supplementing the dryer with a drying room where low humidity air is circulated in high volume, top producers achieve a very uniform moisture content.

Cork importers in the U.S. now report much more reliable moisture levels for incoming corks from these producers. The goal is to reduce the cork's moisture content after washing to 5% to 8% as quickly as possible.

Rapidly reducing the moisture content decreases the potential for mold growth and/or the development of TCA (2,4,6-trichloranisole). Most facilities try to complete the drying process within 24 hours after the corks leave the tumble washer.

Once the moisture content has reached 5% to 8%, the corks can be stored more safely, given a clean environment and very low humidity.

This low humidity effectively limits mold growth on/in the corks, since mold cannot thrive in low humidity environments. Members of the CQC have insisted that Portuguese producers ship corks at less than 8% moisture content to reduce the possibility of mold formation during shipping.

Shipping corks at these low moisture content levels has been quite successful according to Francisco de Paula Souto E Castro, purchasing operations manager for Seagrams, based at the Sandemans facility in Porto, Portugal. He reports very little difference between the TCA incidence or other spoilage in their quality control lab in Porto compared to QC-lab results from cork shipment destinations in California, France, or Australia. He is convinced this is connected to the reduced moisture content of the corks that are shipped. He estimates TCA incidence in corks at below 0.5% and uses both the immersion and sniff tests to examine corks.

Quality control

Although it is difficult to estimate the impact that quality control has had on cork quality, one can easily distinguish between old and new quality control procedures. Simply, traditional quality control meant corks were graded visually and finished corks were checked for correct size.

Progressive producers in Portugal today may use gas chromatographs, ion exchangers, and sensory exams to detect and eliminate off-odors and flavors from corks. Champcork, who uses an autoclave for the initial boiling processing of the raw cork wood, analyzes the steam leaving the autoclave to help identify potentially contaminated lots of raw cork.

Today, good producers examine both the raw cork bark and finished corks for any off-characteristics. Producers work with CTCOR to identify and eliminate potential problems at every step.

If the cork producers examine the bark to eliminate raw material which is obviously contaminated with TCA, and screen the finished corks for the same reason, the incidence of TCA can be greatly reduced.

Good cork producers no longer have muddy or dirty floors, filthy air, poor lighting, or unsanitary facilities. Working areas are swept regularly, dry, and

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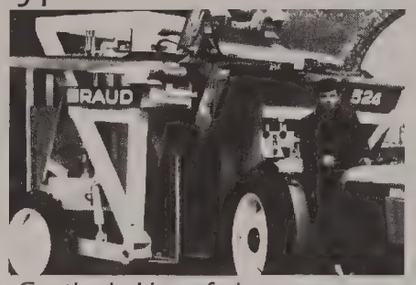

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well-lit. Several producers have applied anti-fungicidal paint on potential surfaces to reduce mold and mildew. The potential for microbiological contamination has been greatly reduced by applying basic standards of good hygiene.

Members of the CQC, as part of their commitment to improving the quality of corks and their use, have played an important role to encourage improvements in Portugal. During a recent visit to Portugal, the author saw extensive evidence of cooperation between Portuguese cork producers and members of the CQC.

One evidence of this cooperation was that CQC members noted that UC-Davis and California State University-Fresno still use extremely old and out-dated equipment. Portuguese researchers were stunned that anyone doing research on corks would use a corker that could neither draw a vacuum nor compress corks properly.

As a result of this interaction, ICEP (Investimentos Commercios E Turismo de Portugal — the Portuguese office of foreign trade), will donate new single-head Bertolasso corkers to the enology facilities of both UC-Davis and Fresno State, so that more accurate and appropriate research can be done at these schools.

Many wineries notice the improved quality and consistency in the corks received. "We do not see the levels of corkiness quoted in the media," reports Dr. Monica Christman, who directs an extensive quality assurance program at Simi Winery, Healdsburg, CA. "Our incidence of corkiness is well below 1%. Of course, people often blame the cork when the problem is something else. Even so, our total bottle variation is below 2%."

Not all producers are employing the above techniques. ***PWV*** recommends you ask your supplier to describe its methods. ■

A number of top-quality cork producers in Portugal were visited during preparation of this report. In no particular order, the producers were: Champcork, Corgom, Juvenal Ferreira da Silva, Jose Pereira de Sousa, Portocork, Relvas Corticas, and SIC.

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PART II

Zinfandel
the affordable luxury

By Rhoda Stewart

*Compared to producing California's other varietal red wines, it costs less to produce world-class Zinfandel. **PWV** asked winemakers in Sonoma, Alameda, Mendocino, Amador and Santa Cruz counties how they make Zinfandel and why it's less costly.*

SONOMA COUNTY
A. Rafanelli Winery

Where wine is made, who makes it, and where the grapes are grown are among the most important factors to consumers," says Dave Rafanelli, owner/winemaker of A. Rafanelli Winery in Dry Creek Valley. "We are known for our Zinfandel.

"My grandfather began making Zinfandel in 1912, in Healdsburg. In 1954, my father bought this place, which had one Zinfandel vineyard. Soon after, he bought another, for a total of 26 acres of Zinfandel, all on Dry Creek conglomerate soil — the soil best-suited to Zinfandel in this region. The wine is still made in our historic 100-year-old barn that was converted to a winery. And the winemaker has always been a Rafanelli."

Although Rafanelli Zinfandel sells out rapidly, customers can always obtain at least one bottle/customer at the winery. "It's Zinfandel that brings customers to the winery," reports Rafanelli. "Once here, they usually taste our Cabernet Sauvignon also, and buy some of that too — which improves the winery's profit."

Most of the Rafanelli Zinfandel is made from estate grapes planted on St. George rootstock. Each June, the entire second crop is removed. In late July or early August, all wing clusters are pulled, and the primary crop thinned, as necessary, to provide proper aeration. Yield is 2.5 to three tons/acre.

Of the 65 to 70-ton yield, Rafanelli uses 50 tons, selling the remainder at $950/ton (1991). He buys 15 tons from a select old Dry Creek vineyard at $1,200/ton.

The juice is fermented with 20% whole berries in 2.5-ton, open-top redwood and stainless steel fermenters; the cap is punched every four or six hours, even during the night. "You can't neglect the baby in its hours of birth," Rafanelli says.

Since 1986, Rafanelli has been ageing Zinfandel entirely in French oak, using a mixture of Chateau and Transport barrels. Each year, 25% new oak is added; 80% is two, three, and four years old.

"Zinfandel is capable of being a world-class wine," says Rafanelli. "If it is to appeal to Bordeaux and Burgundy consumers, it must have the long finish that the 25% new French oak imparts. The best wines in the world have this layer of oak. It's expensive to make Zinfandel this way, but what I feel to be the true quality of Zinfandel can't be brought out any other way."

Barrels are Rafanelli's biggest cost, although increases in middle costs (packaging and taxes) add up. Annual retail price increases have been kept below 3%. The rationale for such small increases is based on his father's advice: "Always treat your oldest customers best, since they are the ones who got you where you are. For every old customer you lose, you need to gain three new ones." Production cost per case in 1991 was $45/$50.

Production is 5,500 cases. The 1991 Zinfandel wholesales for $94/case and retails for $11.50/bottle. Only 30% of production is distributed to retailers and restaurants; Rafanelli's wife, Patty, sells and delivers. Direct sales from the winery and mail-order (customer pays shipping) account for up to 70% of sales.

ALAMEDA COUNTY
Rosenblum Cellars

"We think there is a future in vineyard-designated Zinfandels," says veterinarian Kent Rosenblum, president/winemaker and majority owner at Rosenblum Cellars, Inc.

The first Rosenblum vintage in 1978 consisted of 600 cases of Zinfandel. Of 1992's total production of 20,500 cases, 12,750 cases were Zinfandel. This Zin production included 350 cases of Zinfandel port and was divided among nine bottlings. The winery buys Zinfandel grapes from growers in Napa, Sonoma, Contra Costa, and San Luis Obispo counties.

Retail prices/bottle range from $7.50/bottle for the Cuvee VI and VII (4,400 cases) to $16.50 for two different vineyard-designated bottlings.

Rosenblum's winemaking practices include warm fermentation, two to three weeks on the skins with two or three punch-downs daily, 16 to 18 months in fire-bent, air-dried A&K Missouri oak, plus French Taransaud and Francois Freres oak in varying proportions. Some new oak is added yearly to the Zinfandel program. Most wines are bottled unfined and unfiltered.

A central part of Rosenblum's Zinfandel economics since 1988 has been a joint venture agreement with George Hendry, owner of Hendry Vineyards. Although the idea was Hendry's, Rosenblum accepted the proposal because he and Hendry have much in common regarding the production of Zinfandel from vineyard to table.

"It's better for both of us ," Rosenblum says. "It frees up some of our capital, and it allows for expansion. We don't pay interest on the capital made available, and it leaves the banker out of it all. While George gets paid about two years later for his grapes, he is usually paid significantly more than he would have been without the joint agreement."

Rosenblum provided the following 1991 figures for production costs of the Hendry Napa Valley Zinfandel, and the Vintner's Cuvee.

Hendry Napa Valley
1991 Harvest — Per gallon costs

Crush	$1.61
Bulk ageing ($ .39/mo. X 20 months)	7.80
Bottling	4.47
Storage of cased wine ($ .046/month X six months)	.28
Overhead	3.74
Other (inventory shrinkage, promotional expenses)	.74
Total estimated cost/gal*	$18.64
Cost/case ($18.64 X 2.37-gals.**)	$44.30

**Assuming bottling in July,1993, and one year to sell out, excluding grapes, interest, and sales costs.*
***When grapes, at base price of $1,200/ton, sales, and interest are factored in, cost/case is about $65.*

Wholesale price = $107 less 15% comm.+del., net = $87.00, profit = $22/case.

Net income = $87 - 44.30 = $42.70.

Profit on Hendry bottling: Rosenblum = $28.61, Hendry = $14.09 at wholesale.

Retail is much better average/case: Rosenblum = about $40, Hendry = $20.

For Vintner's Cuvee per gallon (one-half of blend is bulk wine purchased two months after harvest, and balance of the blend is grapes processed by Rosenblum which are paid for six months after harvest):

1991 Vintner's Cuvee per gallon costs

	Purchased	Produced
Cost	——	$3.12
Cost	$4.50	——
Crush (Production)	——	1.61
Bulk ageing	.78	2.34
Bottling	4.47	4.47
Storage	.55	.55
Overhead (two months)	.79	2.23
		(x 5.5 months)
Cost:	$11.09	$14.32
Average cost:	$12.70/gal	
Cost/case:	$30.20 ($12.70 x 2.377)	

Sell wholesale @ $60/case; assume average 5% discount + 15% commission + $3.00 delivery. Net = $45.50, profit = $15.30/case

Rosenblum Cellars employs four full-time persons. All four owners get paid for work done. The winery provides ⅓ of Rosenblum's income; ⅔ of his income is provided by his veterinary practice.

MENDOCINO COUNTY
Fetzer Vineyards

"Our Barrel Select Zinfandel is perhaps our fastest growing and most successful Barrel Select wine," says Dennis Martin, Fetzer Vineyards winemaker, in Redwood Valley. "It is the wine our sales staff is most excited about; it is providing our best opportunity for increased sales." The first Fetzer varietal Zinfandel was produced in 1968.

Today, Fetzer produces 28,000 cases/year of Barrel Select Zinfandel at $9/bottle (retail, 1991 vintage). Barrel Select Zinfandel is a medium-bodied wine made from a blending of grapes from Mendocino and Amador County Zinfandel vineyards.

In 1989 and 1990, a few small lots of Zinfandel from exceptional vineyards or blocks of vineyards were kept separate, to be finished as 'ultra-premium' Zinfandels. These reserve-quality wines have become part of a creative and experimental program the winemaking team initiated in 1989. Referred to among themselves as their "Exploration Series," the program allows them to try out creative options in winemaking techniques, packaging, new varietals, and the barrel program.

Zinfandels produced in this program will are planned to be released for under $10/bottle, according to Paul Dolan, president

Dolan offers three main reasons why Fetzer Vineyards is able to produce a reserve, or reserve-quality, Zinfandel for less than $10/bottle.

- Even the finest Zinfandel grapes cost significantly less than comparable Cabernet Sauvignon or Merlot grapes. He cites the 1990 crush report for Sonoma County, which shows the average cost/ton of Zinfandel at $727, compared to $1,274 for Cabernet Sauvignon.
- Less new French oak is used for Zinfandel. Fetzer's high-end Cabernet Sauvignons get 75% new French and 25% new American oak. The 1986 re-

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serve Zinfandels were aged in one- and two-year-old American oak. Five percent French oak has been added to the Barrel Select Zinfandel program, which overall consists of a mixture of new through three-year-old barrels.

• Zinfandel spends 10 to 12 months in barrels; Cabernet Sauvignon, 20 to 22 months. "The additional new barrel-time, wine evaporation, and handling (topping and racking) for the second year of barrel-ageing needed for Cabernet add at least $4/case to the production costs of Cabernet Sauvignon over Zinfandel," says Dolan. "Overall, Zinfandel can be produced for about 75% of the cost to produce comparable Cabernet."

AMADOR COUNTY
Shenandoah Vineyards/ Sobon Estate Winery

"Zinfandel will soon be the wine that supports us, just as white Zinfandel did a few years ago," says Leon Sobon, winemaker. Leon and his wife, Shirley, own Shenandoah Vineyards and Sobon Estate Winery. The 54-acre Shenandoah Vineyards was started in 1977 at the 1,800-ft. elevation in Shenandoah Valley in the Sierra Foothills east of Plymouth. Sobon Estate Winery and 35 acres of old Zinfandel vineyards is the former D'Agostini Winery at 1,900-ft. elevation.

To become a world-class Zinfandel producer, Shenandoah Vineyards' main challenge was to make a claret-style Zinfandel with the elegance and finesse necessary to enhance food from Amador's lush intense Zinfandel grapes. "It is relatively easy to make a 'Monster Zin' from Amador grapes. The difficult job is to go for balance rather than power," says Leon Sobon, owner-winemaker. "Quality and consistency in grape source are the first essential toward achieving this."

Grapes for Shenandoah Vineyards Zinfandels are grown in estate vineyards and in the 80-year-old Eschen Vineyard in Fiddletown, a tiny neighboring valley southeast of Shenandoah Valley. Grapes for the Sobon estate wines are from 90- to 100-year-old estate vineyards in Shenandoah Valley and Fiddletown. Price/ton in 1990, 1991 and 1992 averaged $600.

Sobon leases, but is buying, the 15-acre, 90-year-old Lubenko Vineyard, Fiddletown appellation. Estate Zinfandel vineyards now total 50 acres.

Sobon's other key step toward producing world-class Zinfandel has been to modify extraction during fermentation. The juice is fermented at 84°F to 88°F, pumped over twice daily for 20 minutes, and the must is pressed between 1° and 4° Brix. This fermentation method was developed in 1984. The cooler temperature and short time on the skins reduces extraction of hard tannins, producing a Zinfandel that is drinkable at release, but gains considerably in the bottle, Leon explains.

Shenandoah Vineyards Reserve Zinfandel retails for $7.50 to $8/bottle, the Sobon Estate, $10/bottle.

With annual production (1990) at 5,000 cases of Shenandoah Vineyards Reserve and an initial (1989) 12,000 cases of Sobon Estate, Sobon Zinfandels are released 30 months after harvest. "The

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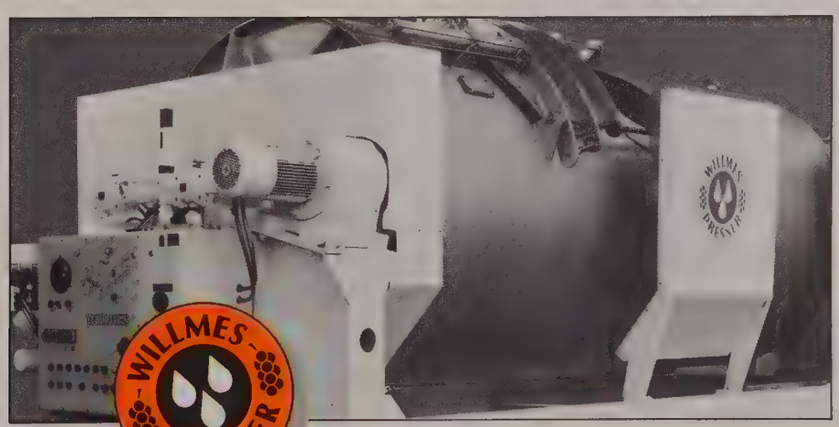

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wines get 10 months in 1,000-gallon oak tanks, 10 months in small barrels, and 10 months in bottle, before release," says Sobon. It has been his goal to have sufficient production to allow him more than six months bottle-ageing.

"I'm making money as a winemaker and losing as a grower," he says. "The vineyard loss will continue until full production is achieved, but the loss is off-set against the winery's profit, so we are coming out ahead."

Shenandoah Vineyards also produces 3,000 cases of a Beaujolais-style Zinfandel, with a retail price/bottle of $5.75, and 2,000 cases of Zinfandel and Vintage ports at retail prices of $8 for the Zin port and $12 for the Vintage port.

SANTA CRUZ MOUNTAINS
Ridge Vineyards

In 1991, Ridge Vineyards (Santa Cruz Mountains) produced 11 separate vineyard and/or appellation Zinfandels, a total production of 39,000 cases. Zinfandel production has been over 20,000 cases for several years.

The wines are made in the style developed by the late Dave Bennion, founding partner and winemaker (1962). Bennion took the revolutionary step of treating the winery's first Zinfandel (1964) from the old Pichetti Vineyard on Monte Bello Ridge as an equal to the Monte Bello Cabernet Sauvignon.

Bennion held the fermenting juice on its skins for 12 to 15 days (long maceration). He took the new wine through full malolactic fermentation; and, perhaps most revolutionary of all, cellared this first Zinfandel entirely in small oak barrels — exactly the same treatment given the Monte Bello Cabernet Sauvignon.

Bennion's treatment of Zinfandel largely accounts for Zinfandel's success as a premium red wine grape in the 1960s, according to Paul Draper, Ridge winemaker since 1969.

At that time, says Draper, few producers were cellaring even Cabernets in small oak barrels, let alone the 'lesser' (that is to say, the non-French) varietal, Zinfandel. Traditional winemaking practices for red wines included ageing them in redwood tanks and sometimes in oak casks (ovals) for the last few months in the cellar.

Bennion, however, had picked up on the empirical winemaking techniques of some of California's early European-born winemakers, whose philosophy is perhaps best summed up by George Zeni, second generation of one of the old families of the vine of southwest Mendocino County: "Use good grapes and good barrels, and don't take nothing out and don't put nothin' in. If you've got good grapes, leave them alone."

Although these winemaking practices were expensive for such a 'lesser' varietal, Zinfandel grape prices in the early 1970s were low. Price per ton then ranged from $75 (Amador) to $175 (Sonoma). The fruit, however, was the best. Grapes were from vineyards in the best locations dating to pre-Prohibition (pre-1920). These were the vineyards that survived that 13-year period (1920 to 1933) because their fruit was treasured by home winemakers from Cali-

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fornia to New York.

Price per barrel for American oak, then, was $35; for French oak, $50. Today, top American oak costs up to $225/barrel; French oak, up to $525/barrel.

Vineyard recognition has been a central factor in Ridge's winemaking philosophy from the beginning, and thus a central part of its economics — if indirectly. "In this high-tech society, for the consumer, wine is a connection with the earth, the seasons," believes Draper.

"Wine is of the earth; it's a connection we need, that we seek out as our lives become more cut off from the natural world. It's part of what's behind the interest in wine that separates it from other alcoholic beverages. Great vineyards are a reflection of that piece of earth the vines grow in and of the sun and rain that fall upon them."

To stress the importance of the vineyard over the varietal, in 1991 Ridge dropped the word 'Zinfandel' from the front label of its Geyserville Vineyard Zinfandel. The label now reads "Ridge," and beneath that "California Geyserville Vineyard," and beneath that, the year.

"With this change, we've taken the same step with Geyserville Zinfandel that we took in 1987 with the Monte Bello Cabernet," says Draper. Ridge has continuously produced Zinfandel from its leased Geyserville vineyard for 25 years.

Today, production costs of Ridge's two top Zinfandels — 1) Ridge Geyserville; and, 2) with the purchase of Lytton Springs Winery and its Valley Vista Vineyard, Ridge Lytton Springs (which also includes grapes from the Maples and Norton vineyards on Lytton Springs Rd.) — are almost as high as for the Monte Bello Cabernet.

"The Monte Bello Cabernet is valued at $2,000/ton; the Zinfandels, $1,000 to $1,300/ton. Yields from these Zinfandel vineyards are typically 1.5 to 2.5 tons/acre. The Zinfandels are both aged in from 25% to 33% new American oak, as well as one-, two-, and three-year-old oak for 14 months. Apart from the savings on American oak, compared to French oak for the Cabernet, all other production costs are nearly the same as for the Monte Bello," reports Draper.

The Zinfandels are released two to six months after bottling, the Monte Bello one year after bottling. Retail price/bottle of the two 1991 Zinfandels is $18; for the Monte Bello Cabernet, $50. The 1991 case production of Ridge Geyserville was 7,500; Ridge Lytton Springs was 8,150; and the 1991 Monte Bello was 3,700. Retail price/bottle of Ridge's other Zinfandels averages $12.

Although Ridge's Zinfandels have been profitable for years, Draper admits that the Monte Bello helps to pay costs of improvements to the Geyserville and Lytton Springs vineyards. "We could raise our Zinfandel prices significantly more than we have, but as long as profits are sufficient, overall, to pay the costs of salaries and improvements, that's all we ask. We're not a bottom-line winery. Zinfandel for Ridge has been an aesthetic pursuit. Zinfandel can provide consumers the luxury of enjoying a truly fine wine at a reasonable price."

With the exception that very few late-

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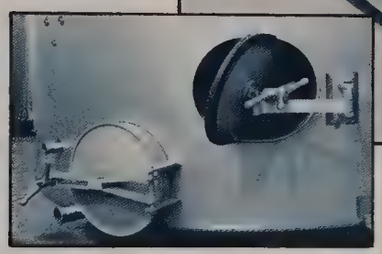

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harvest wines have been made in the last 15 years, the Ridge style of Zinfandel production is basically unchanged from the earliest vintages. The richness associated with the early, non-late harvest wines such as the Geyserville and Lytton Springs is undiminished, says Draper. With 25 years of Zinfandel production behind him and 35,000 to 40,000 cases annual production, "it looks like we're stuck with our own style," he concludes, not unhappily.

Summary

Producers of some of the world's finest Zinfandels cite lower grape and barrel costs, and earlier maturation by six to 12 months in the cellar and in the bottle, in comparison to California's other leading red varietals (Cabernet Sauvignon, Pinot Noir, Merlot), as main reasons for Zinfandel's affordability.

"Wine is of the earth; it's a connection we need, that we seek out as our lives become more cut off from the natural world. It's part of what's behind the interest in wine that separates it from other alcoholic beverages. Great vineyards are a reflection of that piece of earth the vines grow in and of the sun and rain that fall upon them."

Paul Draper, Ridge Vineyards

Additional reasons are lower labor, topping, and case-storage costs associated with the shorter cellar time and less bottle storage time.

Also, increasing consumer awareness of the improving quality, consistency, and value of premium Zinfandels means they tend to sell out within a few months of release, providing early return on investment. Zinfandel was frequently cited as the preferred wine of consumers visiting tasting rooms of producers interviewed.

Finally, Zinfandel grapes yield more juice/ton than the other popular varietals. The grapes are larger, and juice-to-skins ratio is therefore greater. According to Bill Gage, production manager for Rosenblum, Zinfandel grapes can yield up to ⅓ more juice per ton than the other leading reds. ■

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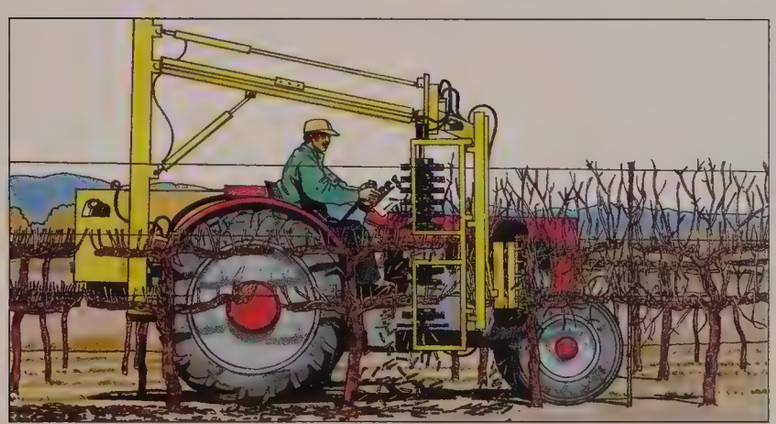

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PART V

FOCUSED HIRING:

Reference checking, making a decision, and extending offers

By Carolyn Silvestri,
The Personnel Perspective

Editor's Note: Part I of this series defined focused hiring (PWV-March/April'93); Part II discussed applicant evaluation (PWV-May/June'93); Part III discussed the legal maze (PWV-July/August'93); and Part IV discussed interview techniques (PWV-September/October'93).

Now that you have interviewed the last of the job candidates, it's time to check references and decide which applicant you want to hire.

Look before you leap

Reference checking is one of the most critical parts of the employment process. It enables you to learn more about the candidate and confirm the accuracy of what he or she has told you.

Unfortunately, job applicants have been known to successfully sue former employers for what was said about them in a reference on the basis of defamation or misrepresentations that prevented them from obtaining new employment. This has led to a reluctance to provide references, which sometimes makes reference checking more difficult. However, it is still worthwhile to check references if for no other reason than to confirm the candidate's work history.

Many employers extend offers contingent on checking references. However, this practice can lead to some embarrassing, if not legally complicated, situations in the event that a candidate receives a bad reference and you choose to withdraw the offer. Because there is no graceful way to withdraw an offer, reference checking prior to making an offer is a much wiser practice.

Obtaining references

The steps listed below have proven to be helpful in obtaining references:

- Ask applicant for a list of former supervisors and co-workers, including addresses and phone numbers, that you may use to check references. Do not call a current employer without the applicant's permission; to do so may place the applicant's current job in jeopardy.
- Ask applicant to sign a statement giving current and/or former employers permission to provide a narrative reference.
- Do the reference checking yourself. In addition to what is being said, a major part of reference checking is listening to how the reference is given. The tone of voice and level of enthusiasm the references seem to have about the applicant may tell you a lot if you're listening carefully.
- Call supervisors directly as opposed to contacting human resource departments who may or may not release information and who often don't know the applicant personally.
- Identify yourself by name and tell the person you are calling that he or she has been cited as a reference by the applicant. Assure the reference that your conversation will remain confidential.
- Put the reference at ease by first confirming basic information such as job title(s), dates of employment, and so on. Establish rapport during this process, so the reference will feel more comfortable about expressing opinions.
- Ask a series of questions that provides you with necessary information without putting the reference on the spot. For example, you might say: "During our interview, John Smith told me about his duties at XYZ Company. Can you tell me what your expectations were of him in that position?" After the question is answered, you can then say, "I'm assuming that you felt he met your expectations. Is that a correct assumption?"

A non-threatening way of inquiring about the applicant's weaknesses is to ask, "When we are providing initial training to John Smith, what should we focus on and what kind of support will he need to successfully perform in the job he has applied for?"

- At the completion of the conversation, thank the reference for his or her time and assistance. Reaffirm that the reference will be kept confidential.

Making the hiring decision

If you're lucky, the hardest part of the hiring process will be deciding who is the best among several qualified candidates. But whether you have one or ten good applicants, it is wise to think your decision through carefully. Areas to explore when making your decision should include:

- Can the individual do the job? Does he or she meet the selection criteria?
- Is the person a good 'fit' for your winery?
- Will this person have a positive effect on the winery?
- Are you being wrongly influenced by favorable or unfavorable information?

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• Did how the references presented information match what they said about the applicant? For example, was the reference enthusiastic or reluctant?

• Do you have all the information you need to properly make a decision?

• After a thoughtful analysis, trust your instincts about who is the best person for the job; those 'gut' feelings are often right.

Making the employment offer

Good job candidates are often lost because the salary is not commensurate with the job, the follow-up was not prompt, timing was bad, or the winery was not made attractive during the interview process. Thus, once you have selected the best candidate for the job, make a fair and timely job offer.

How the offer is extended is also critical: It can be a determining factor in whether the applicant accepts the position, and the initial offer is likely to be examined carefully if any conflict arises at a later time.

In extending an employment offer, remember to:

• Make the offer after reference checks have been completed, not before.

• Review what was previously discussed about the job. Ask the applicant what his or her thoughts have been since you last spoke, and give him or her an opportunity to ask questions.

• Go over the details of the offer (salary, benefits, scheduled hours, etc.).

• Don't make commitments you can't keep. Remember, a verbal offer can be considered contractual, so only state what you intend to live up to.

• Establish a start date and explain where the new employee should report and what he or she will be doing ("Come to my office Monday at 8:30 a.m., and I will conduct your new employee orientation.").

• Follow up with a letter that confirms the offer in writing.

If you follow all the guidelines outlined in this and previous articles of this series, you will be more effective at making a successful and mutually beneficial hire.

Good luck! ■

Carolyn Silvestri is founder and owner of The Personnel Perspective, a human resources consulting, training and recruiting firm in Santa Rosa, CA, tel: 707/576-7653.

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Planting non-invasive, drought-avoidant natives guarantees a cover crop that will not compete with the vine due to opposite annual growth cycles. Perfect for hillside and other areas with limited irrigation options.

Native perennial cover crops can create documented savings up to $300/acre, improve moisture control, ensure wet weather access, create insectory benefits and enhance the vineyard's beauty.

ConservaSeed will work with growers to custom-match cover crop species to the requirements of the vineyard and provide the perfect cover crop for any variety and any need.

For more information, contact: **ConservaSeed**, PO Box 455, Rio Vista, CA 94571, tel: 916/775-1676, fax: 916/775-1163.
Please see our ad, page 59.

Domaine Chandon, Inc.

The grapevine nursery of Domaine Chandon offers a full line of *Vitis vinifera* winegrape varieties and clones grafted onto a large selection of phylloxera-resistant rootstocks.

Vines are available as either greenhouse-grown in pots for direct mid-spring planting or dormant for winter/early spring planting. Dormant rootings of rootstocks are also available.

Rootstock varieties include: 110-R, P-1103, 3309-C, 5-C, 420-A, 101-14Mgt, R-140, St. George, 44-53M, and others.

Dormant vines are stored in cold storage following a rigorous sorting during which all graft unions are tested for strength and fit. Clonal work is accepted with minimum amounts negotiable.

For more information, contact: **Domaine Chandon**, Ernie Weir, Nursery Manager, PO Box 2470, Yountville, CA 94599, tel: 707/255-1807, or 707/944-9400, ext. 246, FAX: 707/944-1123.
Please see our ad, page 51.

Duarte Nursery, Inc.

A new option is available for your vineyard! Duarte Nursery, Inc. (DNI) produces bench-grafted grapevines in 1-quart plastic pots.

The Big Pot benchgrafts are individually selected and shipped only when they have maturing top growth and developed root systems. The plastic pot is removed at planting, allowing the vine roots to establish directly into the vineyard soil. Field results with the DNI Big Pot benchgrafts have been excellent with stands over 99% in many cases and strong first-year growth.

DNI Big Pot benchgrafts are propagated and grown in a special facility, built in 1988, to produce top-quality grapevines. DNI uses an underbench heating system, progressive ventilation and humidification systems, and a unique callusing technology to make the DNI potted bench-grafted greenvine the best option for your vineyard.

Duarte Nursery is 12 times larger than its original size, primarily due to the fast growing popularity of the potted bench-grafted greenvine.

DNI also produces dormant Big Pot benchgrafts. Both the green and dormant potted benchgrafts may be shipped into states where 100% soilless media is required for pest quarantine (i.e. Oregon). DNI supplies winegrape growers with many certified and industry selections of scion varieties available for custom grafting in 1994.

Delivery, field service before, during, and after planting, and a guaranteed stand are all free with most orders.

For more information, contact: **John Duarte** or **Stephan Daniels** at 800-GRAFTED (800/472-3833) or Fax: 209/531-0352, 1555 Baldwin Rd., Hughson, CA 95326
Please see our ad, page 24.

Emmolo Nursery, Inc.

Emmolo Nursery, Inc. has been in the business of growing rootstock rootings, cuttings, and dormant benchgrafts since the 1920s. The business headquarters,

new greenhouses, shadehouses, and state-of-the-art cold storage building are located in Napa Valley.

However, as a further precaution against the spread of any harmful agents and their diseases, each year's nursery is planted in a different Central Valley location on CDFA-approved land that has never been used for any viticultural activity before.

Eleven varieties of rootstock will be available for the 1994 season: Freedom, St. George, SO4, 5BB, 5C, 101-14, 110R, 140R, 420A, 1103P, and 3309. Over 20 varieties of dormant benchgrafts will also be available.

In order to better serve growers, Emmolo Nursery, Inc. offers more than just plants. The nursery can provide, for selected vineyard owners, a less expensive rootstock route with a custom budding package: a highly experienced, professional budding team will field-graft Emmolo Nursery rootstock and selected scion wood for the grower, a one-year monitoring program, and replacement of unsuccessful plants within that year. Growers do not have to concern themselves with the complicated, stressful process of finding a competent budding crew and monitoring the field-budding process, but instead can turn to Emmolo Nursery's experienced team to provide planting services — from rootstock and scion wood provision, to field budding, and first-year development monitoring.

For more information, contact: Raymond Tonella at **Emmolo Nursery, Inc.**, 1085 Galleron Rd., St. Helena, CA 94574, tel: 800/344-5688 or 707/963-5688.
Please see our ad, page 37.

Euro-Machines, Inc.

Euro-Machines offers a wide range of vineyard and winery equipment: hedgers, Braud grape harvesters, Europress pneumatic grape presses, used presses, destemmer/crushers, must juice and wine pumps, etc., along with grape gondolas as described below.

Grape gondolas from Euro-Machines are available in capacities of 529 gallons to 1,559 gallons. The stainless steel hopper is made in 3mm strong material. The pto-driven stainless steel auger has a diameter of 185 mm and ensures a continuous feed into the built-in 'Mohno' must pump, with the added feature of an overload clutch to protect the auger and pump from damage. Emptying the grapes into a destemmer/crusher, the central feed or the doors of a press, and even directly into a fermenting tank can be completed without any problems.

Optional break-shafts to prevent tunnel buildup and two-fold covers for longer hauls or steep hills are available. The trailer unit onto which the hopper is mounted has all safety features required to operate it on the road, such as an overrunning brake, rear tail lights and brake lights. The maximum safe speed should not exceed 20 mph when fully loaded. A trailer hitch is supplied with the gondola to ensure proper mounting to the tractor.

Please contact us for further technical data and a reference list: **Euro-Machines, Inc.**, PO Box 843, Culpeper, VA 22701, tel: 703/825-5700, fax: 703/825-5789.
Please see our ad, page 13.

Galo MacLean Nursery Inc.

Galo MacLean Nursery Inc. is located in the Carneros region in northern California. We offer over 25 years of nursery experience as well as technical and expert service before, during, and after sale.

Our certified rootstock represents the best selection of phylloxera-resistant material. These include 110R, 420A, Teleki 5C, 5BB, 101-14MG, 3309C, 140R, and 1103P. Our mother plants are original-to-type and none of our blocks contain top-grafted vines from variety changes. As early as 1976, we promoted the use of these 'new' rootstocks for wine quality and protection against phylloxera and nematodes.

We specialize in quality dormant rootings. We do not trim our plants because we feel that once the tops and roots are cut, it is difficult to see a difference between a #1 and a #2 plant. We will, of course, trim to customer specifications.

Galo MacLean's professional background includes degrees in enology, viticulture, agrichemistry, and soil microbiology. We, therefore, are fully qualified to provide the grower with the most complete technical advice.

For further information, contact: **Galo MacLean Nursery Inc.**, 2160 Cuttings Wharf Rd., Napa, CA 94559, tel: 707/255-8874, fax: 707/255-4579.
Please see our ad, page 55.

Jim's Supply Co., Inc.

For over 33 years, Jim's Supply has been serving the agricultural industry. Jim's Supply prides itself in staying on top of the continually changing trellising industry, with new innovation and products needed for today's high-tech designs.

Jim's Supply manufactures a variety of trellising products including: high-strength metal grapestakes, line posts, vertical line posts, spaded tubular end posts, standard style crossarms, GDC crossarms, line post crossarms, angle crossarms, 'V' crossarms, post extensions, metal arbor systems, lyre crossarms, trellis braces, and tension clips.

In addition to its manufactured products, Jim's Supply distributes many other items including: wood grapestakes, wood end posts, all gauges of quality high tensile trellising wire, tying supplies, nails, staples, Nico crimp sleeves and tools, Gallager tensioners and electric fencing, gripples, fence tensioners, and Agtec products.

Jim's Supply has a full sales staff to insure a quick and courteous reply to all inquiries regardless of size.

For customers in the 707-area code, please contact our North Coast sales representative: Cliff Little, 707/963-2942.

For more information, please write: **Jim's Supply**, 3530 Pierce Rd., Bakersfield, CA 93308, tel:805/324-6514, 800/423-8016(CA).
Please see our ad, page 35.

Kimco Mfg., Inc.

In 1992, Kimco Mfg., Inc., introduced its new Model-9300 In-Row-Tiller. This tractor side-mounted Kimco has proven its durability and function of weed control and cultivation in vineyard and orchards from 8-ft. row spacing on up.

To accommodate the increase of plantings with rows less than 8-ft. wide, Kimco has introduced the Model-9300 with front tractor mounting, allowing operation in rows of any width the tractor is capable of traveling.

This adaptation allows the narrow row grower to control in row weeds without use of herbicides and all their related problems. In addition to the

front mount for narrow row application, the Kimco-9300 maintains all the features it is noted for, such as:

1) The ability to closely follow the vine regardless of ground speed.

2) Head is free floating to ride over hidden obstacles.

3) A control system that allows the operator to override the automatic system.

4) All pivots are mounted in tapered or ball bearing for increased durability.

5) Choice of head styles to meet various conditions.

6) Increased ground speed.

7) Ease of operation.

Advantages of in-row cultivation now available to the narrow row grower are: 1) Soil aeration; 2) Removing weeds and debris from vine row; 3) Drastically reduces or eliminates herbicides with costs and side effects.

The Kimco Model-9300 is the answer many growers have requested.

For more information, contact: **Kimco Mfg, Inc.**, 9200 W.Barstow, Fresno, CA 93722, tel: 800/356-9641.

Please see our ad, page 59.

Lorane Grapevines

Lorane Grapevines produces premium quality, vigorous, Oregon-grown, grafted grapevines and rooted cuttings in our 'state of the art' propagation facility. Certified and non-certified bench grafts are available dormant or green-growing. An excellent selection of hard-to-find Dijon clones of Pinot Noir and Chardonnay is included in our portfolio. Rootstock varieties include: 3309-C, 5C, SO-4, 420-A, 101-14MGT, 110-R, Riperia Gloire, and others.

For more information, contact: Dave Michul, **King Estate Vineyards, Inc. — Lorane Grapevines**, 80854 Territorial Rd., Eugene, OR 97405, tel: 503/942-9875, fax: 503/942-9867.

Please see our ad, page 52.

R.A. Ripken Grape Nursery, Inc.

R.A. Ripken Grape Nursery, Inc. has produced millions of State of California certified dormant field-grown rootstock rootings and scion wood cuttings for 22 years.

Currently available for 1994 planting are the following excellent quality rootstocks: Freedom (our specialty since 1975), Teleki 5C, St. George 15, 420A MG, 101-14 MG, 1616, 1103 Paulsen, SO4, and 3309.

This year, Ripken Nursery is especially proud of the size and quality of its field-grown rootstock rootings. Custom nursery row grafting is available for 1995 planting.

Contact: **R.A. Ripken Grape Nursery, Inc.**, 14300 N.DeVries Rd., Lodi, CA 95242-9504, tel: 209/369-5961.

Please see our ad, page 59.

Sonoma Grapevines, Inc.

1993 was a record year for Sonoma Grapevines. Growing with the industry, new acreage for field nursery operations was purchased in Fresno and greenhouses were constructed.

Over two million grafts were produced in the first year of operation at the Fresno facility. An additional 4.5 million grafts were made at the Santa Rosa headquarters. The nursery has specialized in cuttings, grafted vines, and rootstock rootings, but now also produces own-rooted green and dormant vines.

Sonoma Grapevines TIMESAVER-grafted dormant rootings have had great industry acceptance. These grafts combine the advances of a hardy dormant vine with the money-saving aspects of a greenvine.

The nursery leads the industry with its extensive use of varietal clones. Eighteen uniquely different Chardonnay clones were offered in 1993. The nursery also offers a large collection of Rhone and Italian varieties not generally available as well as Dijon material.

With over six million grafts, the nursery will be able to offer a great inventory of dormant vines for 1994.

For further information and a complete tabulation of 1993 production, contact **Sonoma Grapevines** at either location: 1919 Dennis Ln., Santa Rosa, CA 95403, tel: 707/542-5510, fax: 707/542-4801 OR 13011 S.Jameson Dr., Burell, CA 93656, tel: 209/866-5408, fax: 209/866-0305.

Please see our ad, page 57.

Sunridge Nursery Inc.

Sunridge Nursery has served the wine and table grape industry since 1977. Growing and grafting grape nursery stock is Sunridge's only business.

The nursery is located east of Bakersfield, CA, in the Tehachapi foothills where the warm climate and phylloxera-free, sandy soils provide ideal growing conditions for grape nursery stock.

Sunridge Nursery facilities include: a state-of-the-art 3,000-sq.ft. growth callous chamber, 18 greenhouses totalling 100,000-sq.ft., and 5,000-sq.ft. of cold storage. There are shade houses and outdoor holding areas that gradually condition new vines. Sunridge owns 80 acres of certified rootstock increase-blocks and 20 acres of certified varietals.

Rootstock rootings and dormant benchgrafts are grown on a nursery site that has been tarp-fumigated, fallowed for the previous twelve months and CDFA-approved. This enables Sunridge to ship phylloxera- and nematode-free material without the need of hot water treatment. All dormant rootings and grafted vines are trimmed, packed in sawdust, and put in cold storage to await delivery.

Sunridge produces a green benchgraft in a biodegradable 10x2x2-inch container. This product is delivered in the spring and early summer months. Mist-propagated plants are produced when a specific material is in short supply and needed quickly.

Between six and seven million vines/year are produced at Sunridge, most grown to customer specifications. More than 40 certified scionwood varieties and clonal selections are offered. Certified rootstocks grown at Sunridge are: 5BB-Kober, 5C-Teleki, 110R, 140-RU, 420A, 1616C, 3309C, 1103P, 44-53M, 039-16, 101-14 MGT, Freedom, Harmony, Salt Creek, SO-4, and St. George.

For more information, contact: **Sunridge Nursery, Inc.,** 441 Vineland Rd., Bakersfield, CA 93307, tel: 805/363-VINE.
Please see our ad, page 46.

Vineyard Investigations

Vineyard Investigations offers a broad array of consulting services, ranging from vineyard development to vineyard problem resolution.

Vineyard development services include: site selection, soil description and analysis, scion and rootstock selection, vine spacing and trellis design, soil fertility and vine nutrition management, and irrigation management.

Vineyard problem resolution strategies target site specific research to improve fruit yield and composition, wine quality and vineyard profitability.

In May, 1993 Vineyard Investigations introduced ***Terroir***™, a vineyard information software package designed to manage soil, vine, water, and fruit data for today's vineyard manager, viticulturist, winemaker, and financial manager.

Terroir™ contains a spatial database manager customized for vineyard management, a program for creating contour maps and three-dimensional surfaces to aid in data interpretation, and a statistics package. ***Terroir***™ does the work of both a conventional database program and a geographic information system within one easy-to-use package. This state-of-the-art combination of powerful software uses the popular Microsoft Windows program.

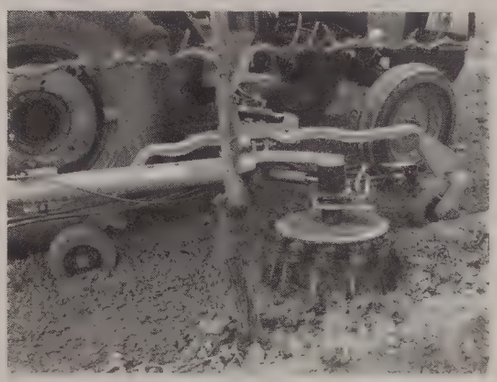
Vineyard Investigations offers customized services for both large and small vineyards and wineries throughout Napa and Sonoma counties. Vineyard Investigations also has clients on the Central Coast of California, in Sacramento Valley and San Joaquin Valley, Arizona, New York, Oregon, and Europe.

For more information, contact: **Paul W. Skinner, Ph.D., Vineyard Investigations**, 26 Laurel Lane, Napa, CA 94558, tel: 707/254-7519, fax: 707/254-7553.

Weed Badger Division

"Products to profit people and the planet" is the mission of the Weed Badger Division of Town & Country Research & Development, Inc. In-row cultivation is the focus and specialty of the company. The company has 15 years of experience producing in-row tillers and mowers for the international vineyard industry.

Weed Badger high-speed, precision in-row tillage is the most practical, cost-effective alternative to chemical weed control. Eliminate dangerous and expensive chemicals. Stop wasting time with government paper work. Sweep and sanitize the strip every time.



Revitalize vineyards that are overgrown with large, problem weeds. Kill Johnson and Bermuda grass. Reduce pest and disease problems. End health risks for workers. Quit worrying about pollution liability and other legal complications. Improve water penetration and irrigation efficiency. Weed Badger does a lot more than just kill weeds.

Weed Badgers have 'up-front' visibility. Select from ten models: three-point and side-mounted. Operators choose from fully automatic, semi-automatic, or manual override. Make on-the-go adjustments. Shape berms as you kill weeds. Pick from sweepers, disks, under-cutter blades, brush rakes, and a wide variety of other options to customize the Weed Badger for your vineyard operation. Weed Badger is a versatile 'tool carrier.' It is the only vineyard tiller you'll ever need.

Get practical, factory-direct information and prices by calling: 800/437-3392 toll-free, **Weed Badger Division**, 5673 95 Ave.SE, Marion, ND 58466.
Please see our ad, page 8.

Western Square Industries, Inc.

A new trailer has been created for use with two-ton valley grape harvest bins and other bins for grapes by Western Square Industries.

Western Square has built and supplied vineyard managers with valley picking bins and trailers for three years.

The new revolutionary trailer design is only five inches taller than the standard valley bin trailer, even though the wheels are underneath the trailer to allow it to move through 6-foot wide rows. This trailer will take the 4-foot wide valley bins or the plastic half-ton bins.

The trailer can take at least three tons of weight and still move through the vineyard and be loaded very easily. The stepping board in the back and the versatility of the design makes this solution unique for vineyard managers.

Western Square expects this new model of the trailer to be sold in quantities in 1994.

"We expect vineyard managers to instruct crews to pick grapes from behind this new trailer," suggests Trygve Mikkelsen, Western Square Vice President-Marketing. "Even though this trailer occupies only four feet of the six-foot aisle, the vines fill up at least two more feet at harvest time. There probably won't be room to move next to the bin without risking damage to the crop. This is the reason for the new stepping board in the back of the trailer.

"Many vineyards have multiple customers; some require grapes picked into ½-ton plastic bins, and others want grapes delivered in 2-ton bins. We designed one trailer to handle either system."

For more information, contact: **Western Square Industries, Inc.,** 1621 N.Broadway, Stockton, CA 95205, tel: 209/944-0921, 800/367-8383.

Westgate Fence Co. & Vineyard Supply

Vineyard owners/managers are discovering a new trellising system which promises to increase yearly profits — the Forever Vineyard Post System.

Forever Fence, Inc. utilizes over 10 years of pre-cast concrete post manufacturing experience to offer the latest developments in reinforced concrete vineyard posts combined with a steel channel insert. The result is a low-cost, permanent vineyard post system that will outlast wood and steel posts.

Vineyard managers have found, by experience, that one costly problem each year is the annual expense and labor burden associated with replacing trellis posts. The Forever Vineyard posts will

virtually eliminate these replacement expenses by never rotting or rusting in the ground.

Westgate Fence Co. & Vineyard Supply welcomes the opportunity to show the vineyard industry the benefits of the Forever Vineyard Post System. Demonstration posts are available to any interested persons. Judge for yourself the advantages of the Forever Vineyard Post System; call our sales office.

For more information, contact: **Westgate Fence Co. & Vineyard Supply**, Ron Miles, 1509 N.River Road#19, Paso Robles, CA 93446, tel: 805/237-2993.
Please see our ad, page 60.

AgFast Corporation

AgFast Corp. offers products to serve specific vineyard functions, designed for easy use, with a minimum of tools including: Vinyl Tye™, allows for plant growth without damaging/girdling the vine; AgLok™ inter-locking, chain style, plastic tie strips; DripLok™ to attach irrigation hose to the support wire; and TrellisLok™ prevents lateral movement of stems/branches.

Contact: **AgFast Corporation**, 1617 S.California, Monrovia, CA 91016, tel: 818/359-6480, fax: 818/359-5971.

Aqua Sure

We offer a patent-pending product called the U-Tie which is ideally suited for drip irrigation. It will tighten/secure a drip hose firmly in place on the wire, secure couplings, last up to 20 years, take 1.5 seconds to install, and salvage existing pig tails.

For free samples, please call: **Aqua Sure**, 1270 Shakespeare Dr., Concord, CA 94521, tel: 800/949-7374.

AUTOMATA, Inc.

DATA-LYNX® Computerized Agricultural Management System optimizes water, power, pesticides, and labor through user-friendly, cost-effective automation. Monitors and/or controls of wells, pumps, valves, soil moisture, weather and other environmental conditions, including AE50 award-winning AQUA-TEL soil moisture sensor, and more! Application-specific software (e.g. ET, CWSI, disease prediction, and frost warning) is PC-compatible.

Contact: **AUTOMATA, Inc.**, 16216 Brooks Rd., Grass Valley, CA 95945, tel: 916/273-0380, fax: 916/273-0381.

Gearmore Inc.

Gearmore announces a new line of 3-point and trailer-mount venturi air sprayers which have special distribution heads with built-in venturi tubes and chemical tubes in the center. The high-speed turbine fan produces air speeds up to 400 mph, literally shearing the liquid into fog-size droplets that stick to the plant surface.

Gearmore has also announced new lines of vine trimmers, narrow row mower/shredders, spaders, and in-row cultivators.

Contact: **Gearmore Inc.**, 2260 Pomona Blvd., Pomona, CA 91768, tel: 800/833-3023, 909/620-6061.

Geoflow Subsurface Irrigation

ROOTGUARD® protection and practical field experience have rapidly made Geoflow the leader in manufacturing dependable subsurface drip irrigation products. Geoflow's products, backed by a 10-year warranty, require less labor and less chemicals than traditional irrigation practices: they improve and accelerate yields, decrease diseases caused by wet leaves and soil surface, and reduce weed germination.

Contact: **Geoflow Subsurface Irrigation**, 200 Gate-5 Rd.#103, Sausalito, CA 94966, tel: 800/828-3388.

Georgia-Pacific Corporation

Georgia-Pacific offers trellising products to do the job right in your vineyard. Our Ranchguard™ line of trellis products includes wooden grape stakes, studded T and roll-formed steel stakes, universal steel cross arms, and vineyard wire in three ranges of break strength, staples, wire clips, trellis braces for wooden cross arms, straight-and-cut tie wire and various other connecting and fastening items.

Call: 1-800-BUILD-GP for the **Georgia-Pacific** supplier nearest you.

Germain's Seeds

The **Cover**$_x$ Prescribed Integrated Cover Crop Program follows the Germain's tradition of supplying quality products based on research to meet the needs of today's agriculture. Germain's cover crops offer alternatives for insect control, nematode control, and erosion control, as well as providing economical sources of organic matter and nitrogen.

For more information, contact: **Germain's Seeds**, PO Box 12447, Fresno, CA 93777, tel: 209/233-8823.

The Grower's Supply Center

The Grower's Supply Center offers a full line of vineyard equipment and supplies. New offerings for 1994 include the Mark II Phoenix Wailer for guaranteed bird control, and the high-efficiency CIMA vineyard sprayers.

For more information, contact: **The Grower's Supply Center**, 2415 Harford Rd., Fallston, MD 21047, tel: 410/931-3111.

Hardie Irrigation

Hardie Irrigation manufactures a complete line of micro-irrigation equipment for vineyard application. The Turbo-Key and Turbo-SC Plus emitters provide accurate flow rates, and are made from the toughest material for long life. Each emitter is individually pressure-tested at the factory. Hardie also offers a full range of polyethylene hose, valves, controllers, and fittings.

Call 800/333-8125 for more information.

Pest Management Supply Inc.

Pest Management Supply Inc. (PMSI) is the premier one-stop-shop for IPM supplies and equipment including field microscopes, hand lenses, sweep nets and traps and lures for over 300 insect pests. PMSI is the U.S. distributor for METOS automatic weather stations, including models for predicting powdery mildew and calculating evapotranspiration.

For more information, contact: **Pest Management Supply Inc.**, 311 River Dr., Hadley, MA 01035, tel: 800/272-7672, fax: 413/549-3930.

Sutton Ag Enterprises, Inc.

Improvements to the product line of Sutton Ag Enterprises include Zon propane cannons for **rent** or sale to better serve vintners with short-term bird problems. To satisfy increasing demand, we have introduced BIRDNET also. Along with many other bird-scaring devices, we remain the exclusive distributor of Bird Bombs and Bird Whistlers.

Contact: **Sutton Ag Enterprises, Inc.**, 746 Vertin Ave., Salinas, CA 93901, tel: 408/422-9693.

Tenax Corporation

Tenax manufactures high-quality plastic netting for trellising and bird control. The netting allows sun, air, and light to reach the vines, and allows pesticides to be sprayed.

Tenax crop support nettings are

proven to reduce costs while increasing yields. Tenax netting is run-proof, U.V.-resistant, long lasting, and easy to install.

For more information, please call: 800/356-8495, in Maryland 410/522-7000, or fax: 410/522-7015, **Tenax**, 4800 E. Monument St., Baltimore, MD 21205.

tie-net international inc.

The proven effective way to keep birds from attacking your crops is netting and the easiest-to-use, most economical netting available today is BIRD-NET by **tie-net**. It's soft-knitted yet strong, UV-treated for three to five years usage, kelly-green environmentally friendly color, and available in 7½, 15, or 30-foot widths.

Call for samples and pricing: 1-800/736-0990, **tie-net international inc.**, PO Box 520, West Chicago, IL 60186.

Vineyard Industry Products Co.

Specializing since 1979 in the North Coast of California offering a complete line of trellis supplies for open-lyre, GDC, and straight vertical systems. Also studded t-posts, lodgepoles, and wire. Factory direct to you or drop by our yard. Call us for personable, knowledgeable service and quotes on any of your vineyard needs.

For more information, contact: **Vineyard Industry Products Co.**, John or Paul Downer, 10603 Old Redwood Hwy, Windsor, CA 95492, tel: 707/431-1356 or 800/544-2210.

Wade Mfg. Co.

WADE'RAIN has introduced a new micro-sprinkler called the **Pulsator**™ for use in vineyard frost protection and cooling. It's low application rate, utilizing an intermittent pulse concept, enables operation for hours at a time without putting on excessive amounts of water. The **Pulsator**™ can convert a drip system to a micro-irrigation system without additional investment in underground piping, surface tubing, and additional valving.

Contact: **Wade Mfg. Co.**, 3081 E. Hamilton Ave., Fresno, CA 93721, tel: 800/695-7171, fax: 209/485-7623.

lab supplies, equipment, reagents
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manage sluggish fermentations
decisions on yeast strains and malolactic inoculants
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burning question
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point at which the science and the art of winemaking meet
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Healdsburg, CA 95448

Corks

All grades and sizes exclusively from Sociedade Industrial de Corticas/Portugal. Inventoried, processed, and packaged in Napa for prompt delivery.

Capsules

Lafitte can supply the following environmentally-sensitive capsules:

Tin ☆ Aluminum
drawn/seamless capsules from Lafitte/France in a variety of sizes, excellent decoration capability, meeting environmental regulations.

Aluminum Polylaminate
produced in Napa in an assortment of stock colors compatible with standard glass neck finishes. NO machine alteration.

Non-Metal Shrinkable Capsules
formed in Napa from stock or custom colors in PVC shrinkable film; flexible delivery and quantity.

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CORK & CAPSULE

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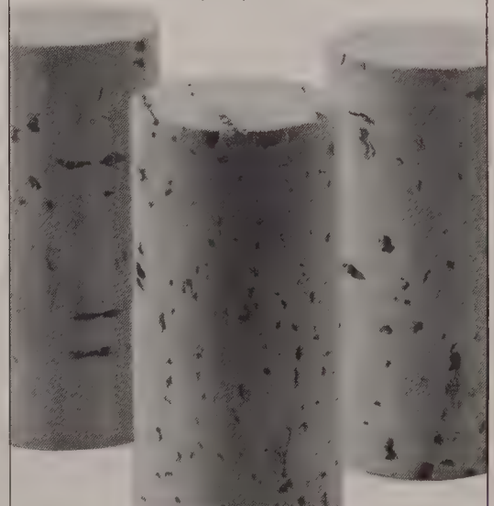
Fax: (707) 258-0558



Stylistic versatility of *Vignoles*

By Eleanor & Ray Heald

"Vignoles style is driven by the growing region," emphasizes Chalet Debonne Winery's (Madison, OH) winemaker Tony Carlucci . "Since Vignoles has naturally high acidity, the tendency may be to make the wine semi-dry."

Larry Mawby (winemaker in Suttons Bay, MI) reports that he has a very high TA (as much as 2.0 in some years) at harvest. "I make a bone-dry style. The grapes frequently come in below 20° Brix. You can make this fruit into a dry wine with discrete amelioration and chemical adjustment. MLF also helps to soften the natural high acidity.

"I also make a semi-dry Vignoles and within the state of Michigan both styles are produced. Recently, the tendency in Michigan has been to varietally label only dry-style Vignoles. All others have been given proprietary names by wineries. This has reduced consumer confusion about the style.

"Fruit character in northwest Michigan varies significantly from that 200 miles south in the Lake Michigan Shore AVA. I personally believe the fruit character from northern Michigan grapes tastes better when the wine is dry. Vignoles grown here has a defined grapefruit/citrus character and that grown in southwest Michigan is distinctly pineapple. As the wine ages, these differences become less perceptible.

"Northern Michigan has low humidity in the summer and therefore we have little or no botrytis problems. This is not the case in southwest Michigan. Even a small percentage of botrytis affects flavors."

Missouri winemakers Al Marks (Hermannhof Winery) and Dave Johnson (Stone Hill Winery) both in Hermann, concur with Carlucci and Mawby that regional growing differences affect style, particularly the percentage of botrytized grapes at harvest. "We get grapefruit characters on into strawberries and tropical fruit," Marks observes.

"We've switched to a low cordon at three feet above ground with catch wires allowing us to do leaf pullling and hedging necessary to control botrytis," Johnson explains. "In our vineyards it seems that Vignoles is a vine that is hard to get established, but once it does, vigor can get out of control. Fertilization programs must be monitored carefully.

"We believe we're still in a learning curve with respect to growing Vignoles. We're attempting to learn how to grow it so that we can harvest when we want to and not because botrytis or secondary problems, such as bunch rot, are pressuring us."

In the New York state Finger Lakes region, Derek Wilber, winemaker at Anthony Road Wine Co. (Penn Yan, NY) explains that he's sprayed for botrytis post-bloom before the bunch closes to knock down as much of the botrytis inoculum as possible.

"We get high acid levels in Vignoles and also fairly high levels of botrytis," Wilber comments. "We make the wine semi-dry because we aren't going to beat our heads against the wall trying to prevent botrytis. For a semi-dry style, we're content with 20% to 30% of the cluster having botrytis infection."

Alan Dillard from Alto Vineyards in Alto Pass, IL adds to the site-specific variation of Vignoles discussion. "We've done just the opposite of what has been done in Missouri," he says. "We've converted from a low cordon to a high cordon for almost the same reasons. By going to a single high wire at six feet, we've been able to manage the excess vigor problem. We have less canopy problems.

"Vignoles is the first grape we harvest in early August and easily achieve 21° to 23° Brix. Unless we get rainy, humid weather before harvest, we get very little bunch rot."

Producers interviewed are attempting to balance vine vigor and overall grape quality at three to four tons/acre.

In this exclusive varietal review, seven wineries in five states shared their elements of style, production, and marketing techniques with ***PWV***.

ALTO VINEYARDS

Alto Pass, Illinois

Paul Renzaglia/Alan Dillard, winemakers

Style

Alto Vineyards has produced a dry Vignoles since 1988. Paul Renzaglia and Alan Dillard are attempting to emulate a 'French Chablis' style.

They believe the cultivar's layers of citrus, peach, tropical fruit, and sometimes honey harmonize well with oak. These elements together with a naturally high acid portend longevity and a worthy white wine at 0.15% RS.

Complexity and intensity

Alto has created wine complexity from a 0.75-acre Vignoles block. In 1991, all juice was completely barrel-fermented in new American oak. Chanson yeast was used to enhance tropical fruit elements. It also positively impacted subtlety and elegance.

It is expected that fruit complexity will improve in 1993 and thereafter because of the availability of grapes from a new, one-acre vineyard planted in 1989, Allowed to produce ½-ton in 1992, this new source is already showing differences in character and quality.

Fruit intensity is attained primarily by chilling grapes prior to crush and the fermentation temperature does not exceed 52°F to 55°F. Vitality and freshness are largely a reflection of fruit quality, combined with Alto's ability to chill the grapes to 35°F within one hour of picking.

Palate strength, length, and aftertaste appear to be an inherent function of the varietal. An over-emphasis on building palate strength may cost in subtlety and varietal complexity.

The winemakers contend that overall balance suffered in 1991 due to a combination of factors; abundant late-season rain and prolonged fermentation in all new oak with Chanson yeast. The latter

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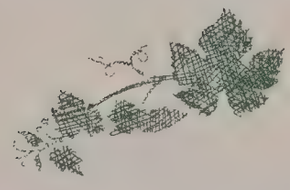

cellar technique accentuated the citric, acidic character to the detriment of the broader range of fruit evident in earlier vintages.

Winemaking

Must is settled at 50°F for 24 hours prior to inoculation with active-dry Chanson yeast. SO_2 is added at 40ppm to settled juice and yeast nutrient is added as needed.

Fermentation completes in 225L, new American oak barrels in 40 to 42 days at 55°F. Wine remains on gross lees for six weeks. Dillard remarks that this technique caused the wine to pick up too much oak and he now believes that lees ageing with stirring in older barrels may better contribute subtler complexities.

At the first racking, 20ppm SO_2 is added and the wine receives its first fining with bentonite. A second fining is done with gelatin before filtration with a 0.45µ filter, prior to bottling.

Marketing

The Alto Vineyards market is small, regional and young. Consumers are apparently pleased by the comparative quality and price of Alto Vignoles and buy the wine as a complement to their vinifera-based cellars. Future releases probably will include both dry, barrel-fermented and semi-sweet styles of Vignoles since there is a broad range of fruit expression possible with the cultivar.

Investigation of expansion into a wider market are only beginning. The winery witnesses significant grass-roots pride developing in southern Illinois. The Illinois Grape Growers & Vintners Association has helped improve the outlook of the fledgling industry on a statewide basis. Continuing experimentation with both viticultural and enological techniques for this grape lead us to believe Vignoles is the future of quality white wine east of the Rockies.

ANTHONY ROAD WINE CO.

Penn Yan, New York

Derek Wilber, winemaker

Style

Production of Vignoles with intense grapefruit and yellow plum flavors with undertones of apricot and spice are the stylistic goals at Anthony Road. Derek Wilber notes that the high natural acidity of Vignoles lends itself to a semi-sweet wine (3.0% RS) finishing crisp and clean.

Botrytis adds significantly to mouthfeel and length. Residual sugar adds weight and the high acidity provides a clean, crisp edge to the finish. Wilber aims for alcohol levels between 11% and 11.5%. The marriage between aggressive fruit flavors and more subtle characteristics requires one to 1.5 years of ageing prior to release. Wilber believes that Vignoles is one hybrid varietal that ages well and develops in the bottle.

Complexity and intensity

Botrytis infection is normal for Vignoles grown on the west side of New York's Seneca Lake and Wilber aims to harvest when the clusters are 20% to 30% infected. He believes botrytis adds depth and multiple flavor layers to the simple flavor elements of non-infected berries.

At the Seneca Lake site, there is concentrated effort to enhance fruit exposure and time harvest with the correct amount of botrytis. Fruit is translucent and light amber in color. At this point, berry flavors are more important than harvest chemistry.

Vignoles has small berries with thick skins and Wilber points out the necessity of keeping phenolic extraction to a minimum. Grapes are machine harvested early in the morning. Whole berries are pressed and SO_2 added after pressing to allow phenols to precipitate. Juice is bentonite fined to reduce solids to less than ½% and any acid adjustment is done before alcoholic fermentation. Wine is minimally handled post fermentation.

Winemaking

After settling for 18 hours at 55°F, juice is inoculated with active-dry Epernay yeast. Yeast nutrient is added as needed. The wine is tank fermented 15 days with maximum temperature reaching 65°F.

The wine is fined with sparkalloid and racked in two to three weeks. A rough and tight pad filtration is done before bottling. A 0.4µ membrane is ahead of the filler on the bottling line. In some years there will be heavy botrytis, then we cannot membrane filter. Dry sugar is added to increase the residual sugar if necessary.

Marketing

Over 75% of Anthony Road's Vignoles sales are direct retail through the tasting room. Wilber maintains that as a little-known varietal, it needs to be tasted to be appreciated. Offering food pairing suggestions, such as Thai cuisine, to tasting room visitors has sparked sales. The wine is complementary to both ginger and garlic.

Each lake in the Finger Lakes District of New York has a winery association to aid in promotion and event organization. People's interest in local products continues to grow.

CHALET DEBONNE VINEYARDS

Madison, Ohio

Tony Carlucci, winemaker

Style

Tony Carlucci produces a clean, fruity, varietal, cold-fermented wine with a crisp balance of acidity to sugar (3.35% RS).

This style requires quality fruit and stainless steel fermentation, Carlucci

contends. He also notes that in order to achieve fruit intensity along with subtlety and elegance, no fining is done.

Complexity and intensity

In Carlucci's opinion, a stainless steel-produced Vignoles requires the correct sugar/acid ratio and low pH in order to have vitality and freshness.

Grapes from the Lake Erie Appellation are picked with 10% to 15% botrytis infection. Carlucci maintains that knowledge of fruit origins and experience are required to make a complex, stainless steel-produced Vignoles.

Winemaking

Production is straight-forward. Juice is settled 24 hours at 50°F before inoculation with active-dry Epernay yeast. Tank fermentation lasts 45 days with maximum fermentation temperature reaching 52°F.

The wine receives a D.E. filtration after the first racking off the yeast lees, a pad filtration after chilling to achieve cold stability, and a sterile pad filtration and membrane at bottling in April following harvest.

Marketing

Chalet Debonne attributes its success with Vignoles sales to its perception by the consumer as a quality, value-priced white wine. It's easy to sell the first bottle, Carlucci says, but the wine must have consistent quality to bring customers back.

HERMANNHOF WINERY

Hermann, Missouri

Al Marks, winemaker

Style

Al Marks explains that because Vignoles is a high Brix/high acid cultivar, it is best suited to a style incorporating some residual sweetness with emphasis on fruit retention. He strives to balance sweetness, acid, alcohol, and fruit character in a wine with 3.0% RS.

Marks carefully monitors picking parmeters (21° to 23° Brix, 0.80 to 0.95 TA, and 3.1 to 3.3 pH) and samples the wine during fermentation to stop it when balance is achieved.

The naturally high acidity of Vignoles lends itself to a fresh style. Early bottling, once stability has been achieved, in January following harvest is done to maintain the wine's vitality.

Complexity and intensity

To achieve complexity, fruit sourced from two vineyards with somewhat different aromas and flavors is blended.

Fruit intensity in the wine is achieved by using clean, sound fruit picked at optimum fruit character. Cool fermentation with strong yeast inoculum and optimum must nutrition for steady fermentation are essentials.

Winemaking

Grapes are sourced from estate vine-

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yards above the Missouri River, eight miles from Hermann, MO, and McMurtry Vineyards near Mountain Grove, MO.

SO_2 is added at 25ppm to the press pan. Juice is settled for 12 hours at 50°F before inoculation with EC1118 (Scott Labs) active-dry yeast. Juice is tank-fermented and yeast nutrient is used liberally as required. Fermentation completes in 13 days with a maximum fermentation temperature of 60°F.

After the first racking, ¼lb/1,000gal gelatin and 2½lb/1,000gal kiesesol are used as fining agents. Before bottling, the wine is given a fine pad filtration followed by a 0.45µ membrane.

Marketing

Hermannhof Winery emphasizes the similarity of Vignoles to Riesling and Muscat when introducing it to new customers. They then point out the unique aroma and flavor characteristics and complexities of the varietal.

Credit is given to the comprehensive program conducted by the Grape and Wine Program in the Missouri Dept. of Agriculture which involves events, media promotions, and public relations. Marks maintains that this support has made consumers aware of the quality of Missouri wines in general.

L. MAWBY
Suttons Bay, Michigan
Larry Mawby, winemaker

Style

Mawby produces two distinct styles of Vignoles. The varietally labeled wine is 100% estate grown, barrel-fermented, lees aged, and totally dry. Mawby describes it as rich with ripe fruit flavors cuddled up to oak and begging to be drunk young, though it will benefit from three to five years of additional bottle age.

Mawby's proprietary 'PGW Pun' is 100% Vignoles from purchased grapes, grown in west-central Michigan. It is tank-fermented and aged, semi-dry (1.5% to 1.8% RS), and fruity.

For purposes of this review, all references are to the 100% estate-grown, dry bottling.

Complexity and intensity

Mawby uses three days skin contact, small lot fermentations, partial MLF, and lees ageing to achieve complexity. He maintains that fruit intensity is related to the soil and growing conditions in northwest Michigan.

The wine retains a crisp, acid edge which preserves vitality and freshness. Mawby insists on the use of clean fruit and bottling quickly to preserve the wine's longevity.

Barrel fermentation and lees aging are the contributing cellar techniques related to middle palate strength, length, aftertaste, and above all, the marriage of alcohol, acid, and fruit flavors.

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Winemaking

Given the vagaries of vintages in northwest Michigan, Mawby deals with a broad harvest window at 19° to 23° Brix, 1.4 to 2.0 TA and 2.8 to 3.1 pH. The most important parameter is TA as low as possible.

Immediately after pressing, juice is inoculated with two principal active-dry yeasts, Prise de Mousse and Chanson. The wine remains in tank overnight before being transferred to a variety of French oak barrels. About 20% to 30% of the cooperage is new with the remainder averaging three to four years old.

At the mid-point of a ten-day primary fermentation, inoculation with several ML strains is done. About 70% to 100% of the lots complete MLF which softens the acid finish and adds flavor.

Wine is aged six to 10 months on the gross lees and stirred once or twice. This fills in the middle body, imparts mouthfeel, and adds flavor dimensions. One racking off the gross lees is the sole racking.

After MLF completes, SO_2 is added at 50ppm and maintained at 25ppm during the ten-month barrel ageing period. If fining is necessary, it is done in mid-winter with isinglas and/or gelatin. Before bottling in July or August, the wine receives a polish pad filtration.

Marketing

Mawby contends that Vignoles is not difficult to sell if it's styled like vinifera and offered as a decent value in an offbeat package.

ST. JULIAN WINE CO.

Paw Paw, Michigan
Chas Catherman, winemaker

Style

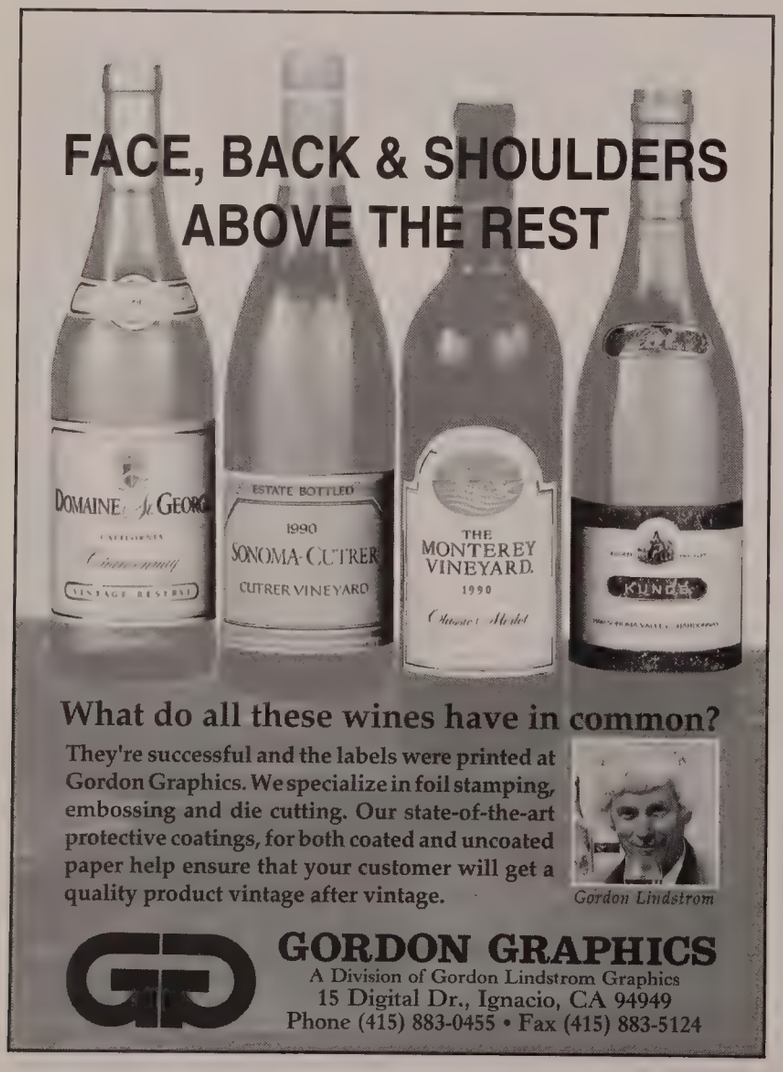
Production of a Chardonnay-alternative white wine is the principal goal at St. Julian Wine Co. Chas Catherman employs many of the techniques used for Chardonnay to the production of Vignoles. He blends multiple lots that have gone through varying percentages of MLF, barrel fermentation, lees ageing with tank-fermented wines. The wine is bottled at 0.4% RS.

Complexity and intensity

Perceived fruity intensity is derived from tank-fermented lots. Approximately 20% Seyval Blanc in the blend lends subtlety. Catherman believes that elegance is a state of mind and is an overstated wine reference.

The natural racy acidity of Vignoles tends to keep the wine fresh, unless it is over-oaked. Partial MLF lends vitality. Bottle life is shortened by 100% MLF. Lees ageing with stirring in French oak and carefully monitoring the length of time in barrel helps achieve middle palate strength and overall length.

Composing a final blend with attention to the marriage of alcohol, acid, and fruit flavors, all determined by the fruit flavors of the wine, creates a harmonious bottling.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Winemaking

Fruit with different flavor spectrums are sourced from two locations. Lake Michigan Shore AVA Vignoles is characterized by tropical fruit and apricot flavors. It has moderate acidity and sugars. Lake Michigan's Central Coast fruit showcases pineapple and grapefruit qualities with high acidity and high sugar.

Catherman stresses that harvesting clean fruit is the primary harvest parameter. He then looks for acidity at 1.3 TA or less and Brix levels between 19.5° and 23°.

Juice settles for three days at 50°F before inoculation with active-dry Prise de Mousse yeast. Inoculation for MLF with Inobacter is concurrent. Fermentation is started in tank and transferred to a mix of 75% Limousin and 25% Troncais oak when the juice Brix level drops 1%. The average age of the cooperage is three years with about 10% new.

Fermentation completes in 10 days reaching a maximum temperature of 72°F. Approximately 60% of the final blend is wine that has undergone MLF. This percentage softens the acidity, lengthens the finish, tones down the fruitiness, and complexes the lees character.

About 60% of the wine remains on barrel lees that are stirred every two weeks for nine months. This ads increased mouthfeel, creaminess, and complexes the aromas and flavors.

No SO_2 is used. The wine is not racked during the barrel regime. It is fined with polyclar one week before bottling in June and racked off the fining agent in approximately three days. Before bottling, the wine is sterile-filtered and receives a 0.5µ prefilter and final 0.45µ membrane filtration.

Marketing

St. Julian packages its Vignoles in a 'Chardonnay-like' package. Whenever the opportunity presents, St. Julian has consumers taste the Vignoles against Chardonnay.

The winery also promotes by-the-glass Vignoles tasting in on-premise accounts. Chain store ads, media coverage, and billboard advertising are some of the strategies used to get the word out.

STONE HILL WINERY

Hermann, Missouri

David Johnson, winemaker

Style

At Stone Hill, Vignoles is produced in a 'Germanic' style at 4.2% RS. Rich, forward, fruity intensity, and mouthfilling flavors with full acidity balanced by residual sugar are stressed. Fruit showing tropical elements, apricot, kiwi, and honeysuckle are desired.

To make this style, fully ripe fruit is essential. Grapes are harvested at 20.5° to 22.5° Brix, 0.90 to 1.1 TA, and 3.1 to 3.3 pH, but taste is the ultimate parameter.

Excess vigor and shading exacerbate Vignoles problems with botrytis and fruit splitting. Proper fruit exposure and air circulation are vital. Excess direct sun to the fruit in Missouri's warm cli-

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mate can, however, cause sunburn and excess phenolics.

Because of the emphasis on fresh fruit intensity, Stone Hill Vignoles is best consumed young, within a year or so of release in December or January following harvest.

Complexity and intensity

Winemaker Dave Johnson explains that in this style, he is looking for fruit complexity rather than complexity arising from lees ageing, MLF, or oak. He continues to experiment with different yeast strains to enhance fruit complexity.

Juice fining can help fine-tune the flavor profile and promote elegance. By maintaining good acidity, cool, but not stressed fermentation, centrifuging immediately upon reaching desired residual sugar level, and keeping post-fermentation handling and processing to a minimum, vitality and freshness are preserved.

Winemaking

Crushed fruit is immediately chilled in a must chiller. Skin contact is kept to a minimum to prevent excess phenolic extraction.

Free run and light press juice is quickly separated with a membrane press. Juice is cold-settled, during which time it is fined with ½ to 1-lb of gelatin and one to two-lb bentonite/per 1,000 gal. After racking, the clarified juice is inoculated with a mix of active dry yeasts and given a yeast nutrient addition.

Fermentation proceeds in tank at 50° to 53°F. When the desired level of RS is reached, it is centrifuged and given its first SO_2 addition.

Because expression of varietal fruit intensity is the goal, the wine does not undergo MLF or oak ageing.

After the wine is cold stable, it is pressure-leaf filtered with a tight grade of D.E. and kept chilled until bottling.

Marketing

In the same manner as Hermannhoff Winery, Johnson credits the program conducted by the Grape and Wine Program in the Missouri Dept. of Agriculture that has made consumer aware of Vignoles and the overall quality of Missouri wines. ■

***PWV** thanks Bill and Jane Butler owners of Wm. Graystone Winery, Columbus, OH for hosting the tasting/discussion and the following panelists for participating: Alan Dillard, Alto Vineyards, Alto Pass, IL; Derek Wilber, Anthony Road Wine Co., Penn Yan, NY; Tony Carlucci, Chalet Debonne Vineyards, Madison, OH; Claudio Salvador, Firelands Winery, Sandusky, OH; Bill Butler, Wm. Graystone Winery; Al Marks, Hermannhof Winery, Hermann, MO; Larry Mawby, L. Mawby Vineyards, Suttons Bay, MI; Roland Riesen, Ohio State University; David Johnson, Stone Hill Winery, Hermann, MO; and Greg Pollman, Valley Vineyards, Morrow, OH.*

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SANFORD WINERY

Managing costs *profitably*

By Carol Caldwell-Ewart

Making and selling wine is my livelihood, so I have to do it carefully," says Richard Sanford, and this conviction may be the bedrock underlying the success of Sanford Winery in Buellton, CA. Located in the Santa Ynez Valley, "Sanford is a 'minimalist' winery," Sanford states. Some might argue that it lacks even the bare minimum of what's required.

Sanford Winery owns no winery building. Production facilities are in leased space in an industrial complex, and the headquarters and tasting room, in an old converted barn, are heated by woodstoves.

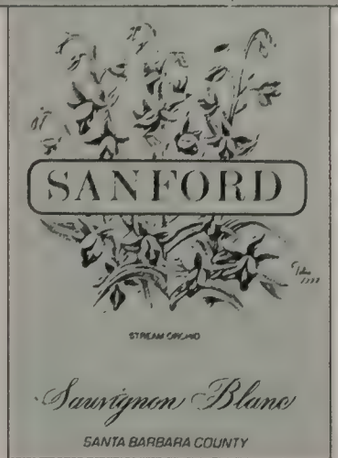
"Wine doesn't care where it's made," Sanford says. "To some people, the winery is the place; to me, the winery is the wine that comes out of the place."

When a new winery is built, sometime in the future, it will be an adobe structure, heated with wood. "The building will be designed for winemaking, and built from native materials," Sanford notes.

Sanford participated in the Deloitte & Touche Wine Industry Financial Survey for vintage years 1991 and 1992 and figured among the top performers. That is, for both years, Sanford was among the top 25% of wineries surveyed that produce under a million cases/year.

Jon Dal Poggetto, CPA, of Dal Poggetto & Company in Santa Rosa, CA, was one of the founders of the survey. "The purpose of the annual survey is to identify factors that enable some wineries to do significantly better financially than their competitors," he says. "It shows that top performers under a million cases typically achieve success through effective cost management, product positioning, and asset management. In 1991, these top performer's earnings before taxes averaged 22% on sales, while the other 75% of wineries surveyed in that category lost an average of 3%."

Richard Sanford



Some top performers lost ground in 1992 when their average earnings before taxes were 13.5%, and the other 75% of wineries surveyed broke even.

Managing costs

But how are these wineries able to manage costs so much more efficiently than others? A close examination of Sanford Winery provides some answers, at least in the case of this 'top' performer.

In 1991, Sanford Winery experienced 17% earnings before taxes on sales. The winery sold 29,250 cases of wine that year which sold at an average FOB (sales price to distributors) of $100/case, for total sales of $2.57 million. In 1992, earnings before taxes on sales were 14.8% on 29,700 cases. Total sales for 1992 were $2.83 million.

In 1991, Sanford bottled 19,000 cases of Chardonnay ($16.50/bottle retail), 1,000 cases of barrel select Chardonnay ($30), 4,000 cases of Pinot Noir ($16.50), 500 cases of barrel select Pinot Noir ($30), 6,000 cases of Sauvignon Blanc ($9.50), and 1,000 cases of Vin Gris ($9.50).

In 1992, Sanford bottled 22,500 cases of Chardonnay, 2,000 cases of barrel select Chardonnay, 4,000 cases of Pinot Noir, 500 cases of barrel select Pinot Noir, 6,500 cases of Sauvignon Blanc, and 1,000 cases of Vin Gris. The Pinot Noir sold for $17.50/bottle; prices on the other wines remained at 1991 levels.

Dal Poggetto notes that top performers in the survey characteristically have a limited product line, selling an average of 14 wines, compared to 23 by other wineries. With only six wines, the Sanford product line is even more focused than most wineries surveyed. Dal Poggetto suggests this gives it an advantage in managing costs even over other top performers.

The survey identified labor costs as one of the most significant factors in cost management. Dal Poggetto notes that

top performers have twice the labor efficiency of their peers.

Sanford has 14 full-time equivalent employees in 1991 (FTE). It sold 2,143 cases per FTE compared to the 1,400 cases per FTE sold by other top performers in its category of 25,000 to 50,000-case/year wineries. This translates into $214,300 in Sanford sales per FTE, compared to $130,000 by the others in this category.

In 1992, top performers spent an average on 19.1% of their sales revenues to sell the wine. Sanford's peers – wineries producing 25,000 to 50,000 cases/year – spent 24.5%. Sanford held selling expenses to 13.7%. Richard Sanford hopes that increased sales volume should bring this down to about 12% in 1993.

Sanford seems to have achieved such success by running the business according to this simple philosophy: Pay attention to every detail, don't be too concerned about how things have been done before by someone else, and never compromise on wine quality.

A back-door beginning

Sanford came to winemaking through the back door. He graduated from University of California at Berkeley in 1965 with a degree in geography, and spent three years in Vietnam in the Navy. After his military duty, he traveled in France, where he developed an interest in Burgundy-style wines and found a life in agriculture very appealing.

"I liked the idea of the vertical integration of the wine business," Sanford notes. "It was fascinating to me to think about growing a crop, manufacturing a product, and then marketing it."

But he had no agricultural experience. "My friends said I was crazy, but I thought, 'Well, I could go back to school at Davis, and in four years get a degree, or I could plant a vineyard and in four years I'd have grapes.' I decided to plant a vineyard."

Rather than follow the pack to the nearest established wine-growing region, Sanford looked around for an appropriate growing region for Pinot Noir and Chardonnay. He chose climate as the most important factor and researched the climate in Bordeaux and Burgundy back to 1900, then looked for a Burgundian climate in California.

Sanford found the Santa Ynez Valley in Santa Barbara County. The valley runs east and west and offers a long, cool growing season thanks to the fog and westerly winds off the nearby Pacific Ocean.

"The valleys from San Luis Obispo to Santa Ynez are a geographic anomaly," Sanford says, "as they run east-west and allow for the interior flow of marine air. Most of the coast range in other parts of California runs north-south."

With a partner (Michael Benedict) and investors who supplied financing, Sanford planted 110 acres in one of the first vineyards in the area in 1971 — Sanford & Benedict. "I had no money, so I supplied the sweat equity," he says. By 1978, the partners were selling wine, "which was very well-received," but they disagreed on the winemaking process. Sanford and his wife Thekla left in 1980 to start their own winery.

Starting all over, the Sanfords couldn't afford the time or money it would have taken to begin again with vineyard planting. "I felt we could get the wine made and start the wine marketing aspect, and then eventually, with the funds generated from the wine sales, plant some vineyards."

Initially they leased space at a nearby winery (Edna Valley Vineyard), purchased grapes from local growers, bought some barrels and tanks, and started making wine. They produced 2,000 cases in 1981 and 4,000 in 1982.

The couple bought a ranch just four miles from the original Sanford & Benedict vineyard (where they still live today and where Sanford winery is headquartered). Thekla manages the ranch. In 1983, they leased a tilt-up building in nearby Buellton, moved the winemaking operation there (from Edna Valley), and hired winemaker Bruno D'Alfonso. "I know I can't do it all myself, so I find the best people and support them fully," Sanford states. Everyone Sanford has hired to key positions in the winery since 1980 is still with him.

Gradually, wine production has increased to about 35,000 cases/year (and production space to 18,000 sq.ft.). That's right about where Sanford wants to keep it. While they own only 16 acres of Chardonnay and Pinot noir at the ranch, he controls the growing of half the grapes purchased, including the recent addition of Pinot noir grapes from the Sanford & Benedict vineyard he planted more than 20 years ago.

Today, Sanford manages the Sanford & Benedict vineyard for its owner and buys all the grapes produced. (He helped negotiate the purchase of the old vineyard for the new owner, Robert Atkin of London, England. "We are currently discussing the possibility of Atkin becoming a partner in the Sanford Winery," reports Sanford, "which would be wonderful because it would indelibly link the Sanford & Benedict grapes with the Sanford Winery.")

Early on, Sanford found that, since he had no track record or positive cash flow, banks weren't interested in lending the money needed to make wine. He took on a collateral partner, who guaranteed the bank loans. Sanford currently is buying out the collateral partner.

When Sanford developed the business plan, he anticipated nine years of negative cash flow to launch the winery. "Thinking it all out in advance is key to this business," he remarks. Through careful attention to every detail, the winery achieved profitability in eight years, experiencing a steady 12% growth nearly every year.

Asked how he has achieved that growth, Sanford says, "I'm a stickler for cost control. We focus on the wine, that's our business." Sanford purchased state of the art equipment and cooperage — what is needed to make wine in the style he wants — including the 40 bottle/minute Stone bottling line in 1984, a 10-ton Europress and an Amos destemmer/crusher in 1991. Every other expense is scrutinized. The original winery had no electricity.

"When you're doing something like this, and you don't readily have the funds available, you have to pay attention," he says. "Winemaking is really a matter of paying attention through the whole process." He quotes a study from UC-Davis that says the winemaking process requires 2,000 decisions, and, he adds, every decision requires an action by someone.

After years of pretty much doing everything himself, Sanford's role at the winery today is largely in administration and marketing. David Green was hired as sales director at the end of 1991, and sales increased 9% as a result. At the end of 1992, Andrew Sawyer was hired as controller. Sanford had determined that a sales director and a controller were needed long before they were hired. "It's not enough to recognize you need help," he says. "It's important to analyze when you can afford help."

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Distribution

One aspect of the business where Sanford's attention to detail is most clear is distribution. Unlike many other top performers, he doesn't employ a national marketing agent. Instead, he has carefully developed a hand-picked network of distributors. Sanford pays close attention to their sales and responds quickly to what's happening in the market.

Sanford wines are available in 44 states, England, Germany, and Japan. Most sales are in California. The other primary markets in order of size are New York, Massachusetts, Illinois, Wisconsin, Florida, and Georgia. Sanford notes, "It's very important to be broadly distributed." International distribution was 1,800 cases in 1992 and was very important as California sales were down.

When Sanford first went looking for distributors, he began by surveying retailers and restaurants in each market to identify the distributors who provided the best service. Then he set out to place Sanford wines with those distributors. In some cases, it took a while, but now he has placed his wines with all the distributors he had targeted.

Sales are tracked on a monthly basis by getting monthly depletion reports from each distributor. When necessary, to motivate the timeliness of these reports, he occasionally pays a depletion allowance only on cases sold. When a distributor's sales sag, "We send a letter suggesting the number of cases to be sold per quarter," he says. David Green communicates by mail with each distributor monthly with vintage updates, winery news and recent press.

When a distributor is doing very well, Sanford responds quickly with congratulations. He contacts all distributors on a quarterly basis to discuss how they're doing, to make suggestions about how to do better, and to stimulate interest. Sales increases or decreases often spark personal visits to the distributor.

Do other people handle their distributors this way? "I don't know," Sanford says. "We're all going places where no one's been before. When you choose another's path, you're not true to yourself."

"Our customer is really our distributor; they are the ones who buy," he says. "We really try to help them do their job."

For many years, Sanford has had San Francisco food and wine authority Shirley Sarvis design original appetizer recipes to complement each release of each Sanford wine. "I ask for finger-food recipes that could be enjoyed with a glass of wine in hand," Sanford says. He provides the recipes to distributors who, in turn, supply them to chefs for use at wine tastings and wine and food shows.

Pricing and sales

Sanford has no set formula for his pricing strategy, "but we can't be in the discount business. We have to have margins or we can't compete. By growing slowly and maintaining high quality,

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discounting can be avoided."

Even when British Airways bought Pinot Noir for first class passengers in 1992, Sanford didn't discount. He has been told that he should charge more for his Pinot Noir, but says, "The idea is to give good value for the price, retire our debt, and stay in business."

"Some small wineries achieve superior performance because they are able to command higher prices for their wine," Dal Poggetto notes. That isn't so at Sanford, where their average FOB price is $100/case, which is approximately the group average FOB for wineries of Sanford's size. Successful cost management has led to the winery's success.

The product mix at Sanford Winery is market-driven and dependent on what grapes do well in the Santa Barbara area. Sanford experimented with Merlot for a few years but stopped selling it when the wine did not prove 'satisfactory.' He feels he can be much more responsive to the market because he buys his grapes. Rather than simply discounting, vintners must be ready with alternatives when a wine doesn't sell, he says.

About 90% of Sanford sales are through distributors. Direct sales, through the tasting room and direct mail, account for 10%. When the barrel select wines are released, Sanford sends out postcards to a mailing list of 6,000. A Christmas brochure to the same list strongly increases year-end sales. He doesn't do bulk mailings, because by mailing first class he keeps his list current.

Sanford, Green, and winemaker D'Alfonso travel to many trade tastings and shows to represent the winery. "We may do more traveling than other wineries," he speculates. "One of us always seems to be on the road." Collectively, they're traveling as much as 80% to 90% of the year.

The new controller, Andrew Sawyer, also attributes Sanford's financial success to managing costs and the minimalist approach. "The owners are on-site, in direct control. This is Richard's career, not his hobby." ■

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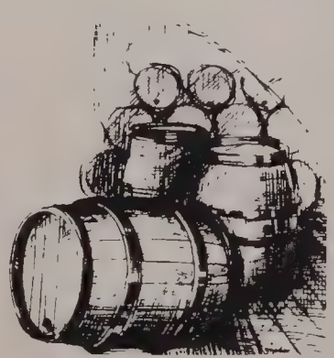

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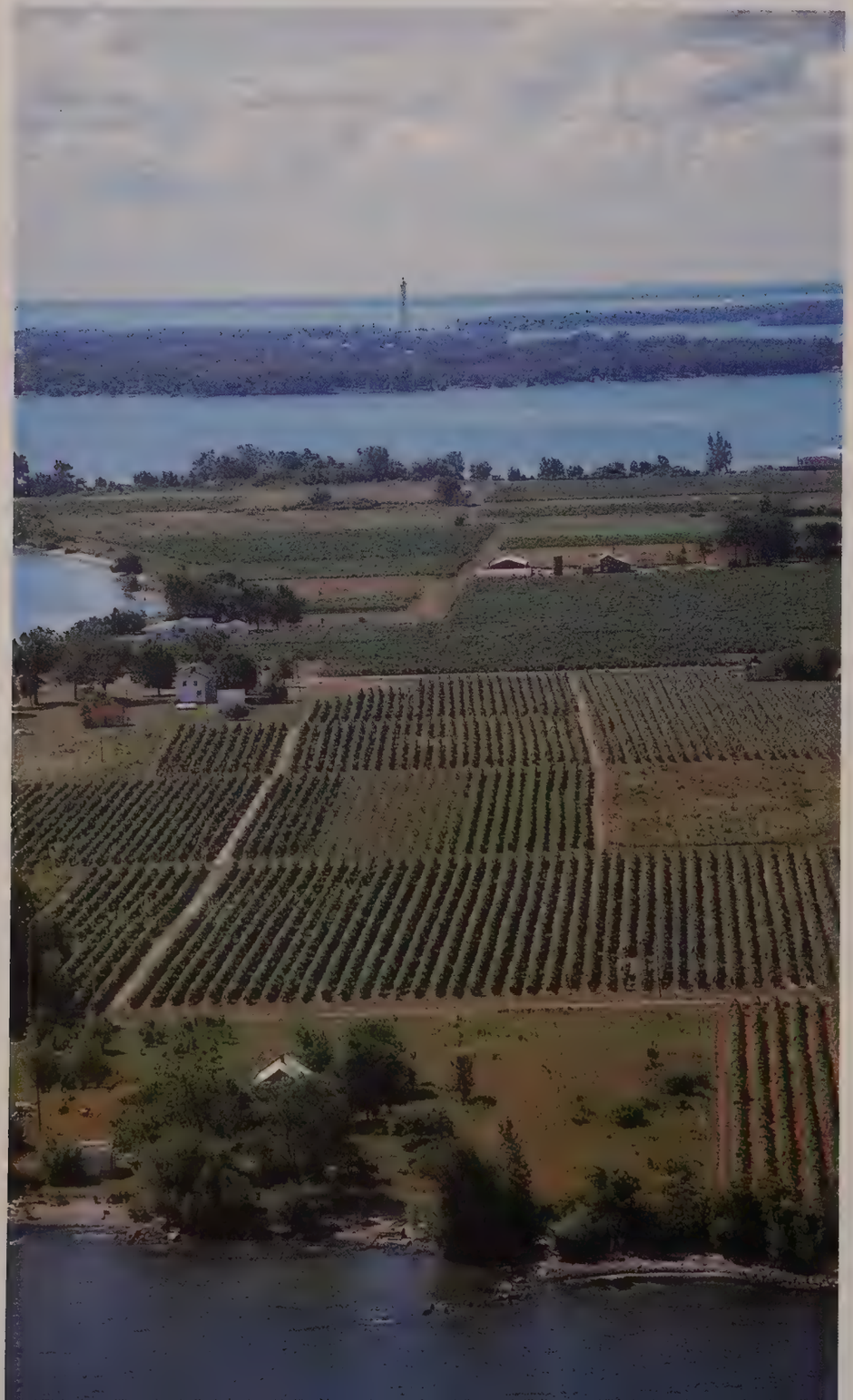
Showcase for Ohio *vinifera* wines

Grapes are grown for Firelands in this North Bass Island vineyard in Lake Erie.



By Eleanor & Ray Heald

Sandusky, OH, on the shore of Lake Erie where sub-zero temperatures may occur in winter, seems an unlikely spot to grow fragile vinifera varietals and create a showcase for vinifera wines. But the folks at Firelands Winery are doing just that!

Wine has been made on the Firelands Winery site since 1880. During the Revolutionary War, the Firelands region of north-central Ohio was allotted to Connecticut citizens whose homes were burned by the British. They brought a winemaking heritage with them. The original wine cellar at Firelands was owned by the Edward Mantey family and has been incorporated into the present winery facilities in Sandusky.

Firelands Winery, while continuing production of varietally-labeled French-American hybrid wines, has shifted its focus to vinifera varietals grown on Lake Erie's North Bass Island. Of the winery's current annual sales of approximately 8,000 cases, 75% are vinifera. This change has taken place since 1980 when Firelands Winery was acquired by Paramount Distillers, Inc., based in Cleveland, OH.

In 1957, Robert Gottesman and partners purchased Paramount Distillers, a small company specializing in fine cordials, sold principally in Ohio and Iowa. Since then, the business has expanded, and Gottesman has become a key player in the promotion of Ohio wines, particularly vinifera varietals, and the expansion of their market.

Paramount Distillers, Inc., operates as the parent company while several other companies shelter under its corporate umbrella. Paramount Brands, Inc., for example, headquartered in Port Chester, NY, is an importer and wholesaler of wine and liquor in New York State.

Meier's Wine Cellars in Cincinnati (acquired by Paramount in 1976), buys grapes from several Lake Erie vineyards and also growers in Missouri. The Firelands facility serves as a juice station for Lake Erie region grapes shipped to the Meier's facility.

To supply its wineries with premium varietals, Paramount owns 550 acres (180 acres planted) on North Bass Island in Lake Erie of which 75 acres are vinifera (25 acres Riesling, 19 acres of Cabernet Sauvignon, 18 acres Chardonnay, five acres Gewurztraminer, three acres Pinot Noir, and three acres Cabernet Franc). Additional vineyards are located on Middle Bass Island and at Firelands Winery. Average annual yield from North Bass Island is 270 tons of vinifera and hybrid grapes.

Vinifera on Lake Erie islands

"Our vinifera vineyards do not give the appearance of a California vineyard," winemaker

Claudio Salvador explains. The vines are trained on a six-foot vertical trellis with an umbrella-like appearance at the height of the growing season. The fruit zone is seven inches to three or four feet above ground.

Fruit production low to the ground has thwarted attempts at mechanized harvesting because an estimated ½-ton/acre of grapes would be lost using a mechanical harvester.

Two machine hedgings in the summer are part of the canopy management program.

At pruning, an average of 30 to 35 buds/vine are left. Pinot noir has proven to be an unexpectedly large producer and the number of buds left after pruning is less than the 30 to 35 average. With these pruning decisions, cluster thinning on all vinifera varietals is unnecessary.

Hand-picked grapes are dumped into half-ton bins and trucked to the North Bass Island commercial ferry dock where bins are forklifted onto a chartered commercial ferry for transport to the mainland winery. Once on the mainland, a maximum load of 60 tons of grapes is unloaded by forklift onto trucks to reach the winery. It takes about 1.5 hours to load and unload grapes at each end of a two-hour ferry trip.

A supplementary steel boat (owned by the winery) hold a maximum of eight tons and is occasionally used for small loads. "This is the back-breaking way to bring grapes in," Firelands Winery president and Paramount's Lake Erie wineries general manager Ed Boas comments. "We attempt to use the ferry as much as possible because the small boat must be unloaded by hand."

In anticipation of devastating freezes, the following 'insurance' program operates at a cost of about $60/acre:

After harvest, the vineyard manager works with the seasonal crew to bury four new canes (essentially suckers) from each vine. As the workers twist these canes downward, a disk plow covers them with two to three inches of dirt, sufficient to protect the canes during winter.

When the winter is not especially severe, the four buried canes aren't needed and are cut off with an early plowing after pruning. If the one or two main production trunks are destroyed in a particularly cold winter, two of the four buried canes can be brought up, saving the vine.

Firelands tasting/sales room

Growth projections

More vinifera vines will be planted on North Bass Island to bring Firelands Winery to a 10,000-case annual production by the year 2000. In spring 1993, two acres (in a projected six-acre block) of Pinot Gris were planted.

"The cold-hardiness of Pinot Gris is proven," maintains Salvador. "It matures early and is therefore much less susceptible to early autumn frosts. Experimental plantings (150 vines) from 1985 have produced excellent wines and we believe Pinot Gris has found a home on North Bass Island."

For the Pinot Gris plantings, two rootstocks were chosen: SO4 and the low-vigor 420A to match the varietal's natural early maturing characteristics.

"We have not buried canes on Pinot Gris the way we have on other vinifera," Salvador states. "So far we have been lucky, but then we've not had a severe winter with weeks of sustained sub-zero temperatures since they were planted."

Marketing

"Some Riesling (the largest vinifera acreage) is used in premium blends for other company wineries," reports Salvador. "A blush wine is produced for Mon Ami. It is 95% Riesling and 5% Cabernet Sauvignon and is that winery's hottest seller."

The driest varietally-labeled Riesling produced is 1.5% RS and is sold under the Lonz and Mon Ami labels. "We did experiments with a 0.6% RS Riesling and it was not successful," Boas reports. Firelands Riesling is 2.5% RS.

"Year after year, the sugar is balanced by the naturally high acidity," Salvador maintains. "I strive to make a Riesling, without reducing the natural acidity, that is about 0.9 TA with bottled pH at 3.25. We have no problem selling this wine."

Paramount vice-president of sales John Pallo outlined strategies for opening new markets for the Firelands brand. "Restaurants such as the Detroit's Rattlesnake Club, where sommelier Madeline Triffon has an interest in unique regional wines, will pour the Firelands White Baco," Pallo reports.

"Such placements will bring attention to the label and offer bigger placements in the future. We entered the southeast Michigan market with a major wholesaler for the first time in spring 1993.

"At $5, our White Baco Noir has been well received as a blush wine with a medium-dry taste. It has no price-point peer in that market. Interestingly, it has opened doors for us to get placements for our vinifera wines. In Pennsylvania, Philadelphia and Pittsburgh are major out-of-state markets for us also."

Through the New York-based Paramount brands, Firelands wines get representation in the New York City market. "This comes with great reluctance on the part of [Paramount Brands] sales personnel and much pressure on the part of management," Gottesman maintains. "New York City sales personnel

still believe that unless the wine is imported or from California, it's impossible to sell. Part of our growth plan is to bring these people to Firelands in the near future to see what we're doing."

Interest in the Firelands wines is growing in New England and Maryland. "There are small but growing pockets of interest in regional wines around the country," Pallo believes. "It may only be a few cases, but if these interests are serviced, I think sales will grow. Slowly, perhaps, but they will grow because the price is right and the wine is vinifera. Firelands Gewurztraminer, in particular, has generated special interest."

Six million in the summer

Cedar Point Amusement Park, less than ten miles from Firelands Winery, and the Lake Erie islands draws six million people annually. People motoring to Cedar Point from the north or west, must pass the winery to get there.

The Lake Erie Islands, a summer retreat, draw another three million people to the Great Lakes region. Sailing and fishing are very popular.

As a result, "The tasting room does brisk business between the Memorial and Labor Day holidays," Boas notes. "The local visitor and convention bureau has done a good job of extending this season by focusing on the grape harvest period after Labor Day through the month of October. We do well on weekends during that period."

Bucking the competition

Sparkling wine production at Firelands totals 1,300 cases annually. Firelands Brut Champagne ($11.95/bottle) is a traditional methode champenoise blend of Pinot Noir and Chardonnay that spends three years on the yeast. Firelands Riesling Champagne ($9.75) is a 100% Riesling methode champenoise sparkling wine.

How is it possible to compete with California and New York sparkling wines at the same price point? "It is not the winery's intention to compete with supermarket prices," Pallo explained, "but to place the wines in smaller shops where the wine can be hand-sold as a regional specialty. A significant amount of the sparkling wine is sold right out of the tasting room. We're seeing much more Ohio grassroots pride developing. It's slow, but it's coming."

Boas maintains that the winery uses every opportunity to showcase its wines against the competition. "We'll pour our wines at private, public, and charitable tastings when asked," Pallo contends. "We do waitstaff training regularly. It takes attitude and we're willing to build a positive one toward Firelands wines.

"It's impossible to track sales generated by pouring wines at charity events. We view it as an opportunity lost if we aren't there. When we have a Firelands table placed among a large number of California producers, it's surprising to see people's reaction. The look on their faces tells you what they're thinking, 'An Ohio Chardonnay?'

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By Dr. Richard Smart

Introducing the Smart-Dyson trellis

This column will describe the development of a winegrape trellis system. Many readers are aware of the trellis system developed by Scott Henry, vigneron of the Umpqua Valley in Oregon.

As I always relish telling my audiences, Scott has no formal training in viticulture; in fact he previously worked as a rocket scientist for NASA (National Aeronatical and Space Administration)! However, Scott was able to recognize a problem in his vineyard, and using some first principles of viticulture, think through the design of his trellis system.

In my consulting work, I probably recommend the Scott Henry trellis system more than any other, as it is suited to moderate vigor sites and rows eight to ten feet wide. It can be easily harvested with existing machines and is normally simple and cheap to retrofit. The Smart-Dyson is a modification of the Scott Henry trellis. Creation of this modified trellis is explained below.

How it all began

John Dyson is the owner of the 8,000-case Millbrook Winery in the Hudson Valley of New York State. He has an interesting background which makes him aware of the benefits of technology to farming. After graduation from Cornell University in 1965, Dyson served as an Agricultural Commissioner for New York. John now maintains a Cornell Board position. Millbrook was one of the first all-vinifera wineries in New York. Dyson selected his own Riparia rootstock from wild vines growing up trees!

Dyson also made investments in California vineyards and a winery and vineyard in Tuscany. In 1989, he bought the 330-acre Mistral Ranch (Gilroy, CA) and subsequently the Vista Verde Ranch near Hollister, CA.

Aware of Professor Nelson Shaulis' work in New York State on canopy management, Dyson attended a workshop in Greenfield, CA in June, 1992 organized by Dan McNamara of Quiedan Company. At this workshop and a pruning seminar in November, 1992, I discussed the benefits to be gained from improved trellis systems in the Salinas Valley, from a yield, quality, and wind protection viewpoint.

Dyson had many acres of high vigor, shaded vineyards on his property suitable for retrofitting, and we discussed merits of various systems.

At the seminar, this question was asked: Why does the spur-pruned version of the Scott Henry require two adjacent vines with cordons at different heights? As explained in "Sunlight into Wine," this is because any one vine trained to two different cordon heights will result in the top cordon eventually dominating the bottom cordon.

There are two reasons for this. First, the top cordon will inevitably cause some shading of the bottom cordon, no matter how well the shoots are positioned and trimmed. Second, since the vine is a climbing plant, hormonal control of growth means that higher buds burst first, and upward growing shoots grow more strongly than downward growing ones.

Dyson rightfully suggested that if the two tiers of shoot systems could be developed from one cordon, then this would likely decrease the variability in fruit ripening between the two tiers. This is obviously true, and it is well known that sugars produced by photosynthesis can move quite readily about the vine.

I wondered how easy it might be to separate the shoots from upward and downward pointing spurs on one cordon. I had always advised clients that this essential operation was made easier with the Scott Henry trellis by having the fruiting wires on opposite sides of the line posts, and separated vertically by about six inches.

There did seem to be a good possibility that the idea would work, so Dyson agreed to start trials with some young Merlot vines grafted onto 5C rootstock, planted in 1990.

I visited the Mistral Vineyard in September 1992 and saw the first crop on young vines with this system. The vines looked very impressive. The management company responsible for the vineyard reported no difficulty with the shoot separation and positioning. The canopy was open, with excellent leaf and fruit exposure.

After this visit, I inspected some trial vineyards in the Vinho Verde region of Portugal. There I saw a trial with a mid-height sylvos system, with spurs taken either side of a single cordon. Although the shoot positioning was not carried out so rigorously as for the Smart-Dyson system, these vines had been consistently producing good yields and quality from open canopies for many years. There seemed to be no evidence of lower spurs dying. I took this as reinforcement that the Smart-Dyson system would be sustainable.

The first crop of Merlot at Mistral on the Smart-Dyson trellis was six tons/acre, and the fruit was harvested late (at the winemaker's request) at 25° Brix. The winemaker was favorably impressed with the wine and reported excellent color and varietal character.

The second crop was harvested in September, 1993, after this column was typeset. The vines appeared to be carrying about another six tons/acre and the canopy is still open, with good leaf and fruit exposure. Shoot trimming at the top of this system is necessary as for the Scott Henry, otherwise shoots will fall down the sides of the canopy and shade the fruit.

Dyson has been so pleased with the performance that he is developing another 30 acres of Merlot on the system at Mistral, and 30 acres of Chardonnay at Hollister. I have been advising clients in other countries to also try the system because of these promising results.

Management tips for the Smart-Dyson system

As shown in the accompanying diagram, the cordon wire

should be about 42 inches above ground. This allows for plenty of shoot length below the cordon when shoots are turned down. Shoots of about 12 to 15 nodes in length are desirable to adequately ripen fruit.

One pair of moveable foilage wires is used below the cordon. There should be two pairs of movable foliage wires above the cordon, with at least 30 inches of post height. The top shoots can be trimmed to about 10 to 15 inches of shoot length above the top foliage wire.

The vines can be trained to unilateral or bilateral cordons, and accordingly are pruned to one or two canes in the year of cordon establishment, which should be the second leaf. Shoot separation should be done in this first crop year or third leaf so as to create upward and downward pointing spurs.

The shoots are separated into two tiers, one growing upwards from upward pointing buds, and the other group growing downwards from downward pointing buds. The separation is done at about three weeks before bloom, and the movable wire (to be subsequently moved down) is positioned between the two groups of shoots.

Then, at about the end of bloom, the wire is moved downwards, and the bottom tier of shoots moved along with it. At this same time, the shoots of the top tier can be caught between the upper (middle) pair of foliage wires. A couple of weeks later, the upward growing shoots are caught between the top pair of movable foliage wires, and the first trimming will normally follow.

The bottom group of shoots can be trimmed at the tip. This is often done during cultivation. Where possible, it is a good idea to allow these shoots to grow along the ground, so that extra leaf area is well exposed.

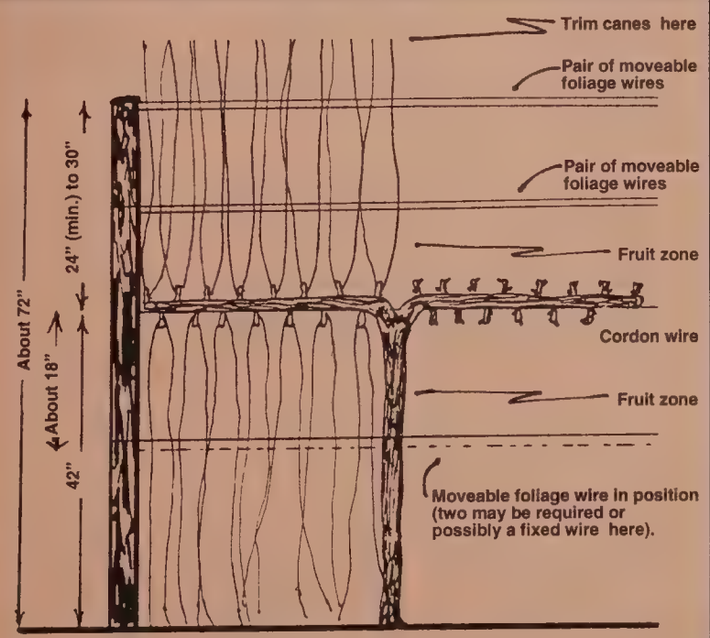
The Smart-Dyson system will be very easy to mechanically harvest and pre-prune using existing machines. Provided the canopy is not dense, little or no leaf removal should be required. A machine to trim the shoot tips of upward and perhaps downward growing shoots is essential, as it is for the Scott Henry.

The Smart-Dyson system, like the Scott Henry, relies on having correct shoot spacing to maintain open canopies with good leaf and fruit exposure. This requires vertically-oriented canopies with about five shoots per foot. Allowing for shoots above and below the cordon, this adds up to a total of 10 shoots per foot of cordon.

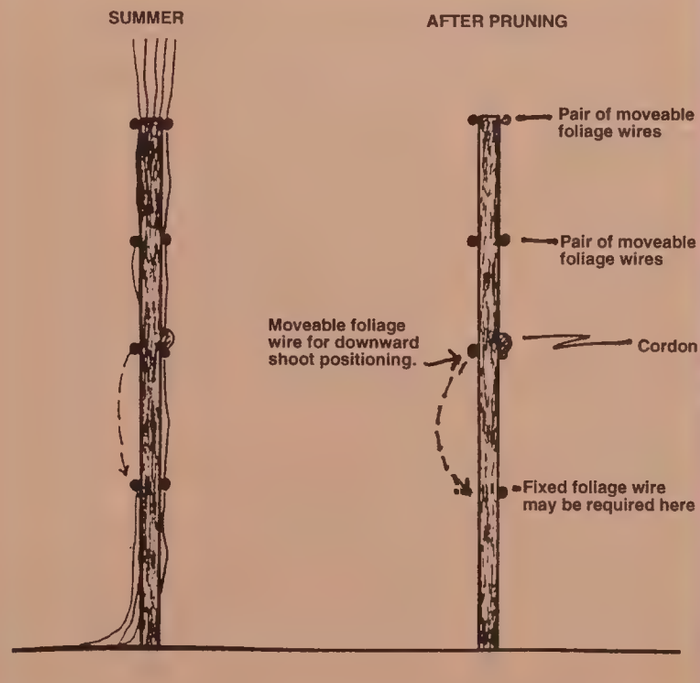
With pruning to two bud spurs, this requires spur spacing of five spurs per foot alternating up and down. To achieve this spur spacing requires internodes of a relatively close spacing (2½ inches) at the time the cane is originally laid down at pruning to form the cordon. This requirement may preclude retrofitting to the Smart/Dyson system where the vine vigor is high and the internode spacing large. ■

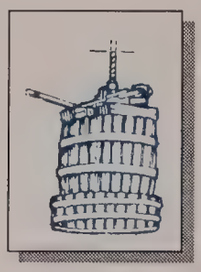
Smart-Dyson trellis showing bud positions on canes, at end of second growing season.

Side view of Smart-Dyson trellis, showing vine in summer and winter.



End view of Smart-Dyson trellis, showing wire positions in summer and winter


SUMMER
AFTER PRUNING
Pair of moveable foliage wires
Pair of moveable foliage wires
Moveable foliage wire for downward shoot positioning.
Cordon
Fixed foliage wire may be required here



Emergence of the AVA trade association

By Jerry Douglas, President,
American Vintners Association, Biltmore Estate, NC

(Editor's Note: ***PWV*** *invited AVA to submit information to inform* ***PWV*** *readers about the possible benefits of AVA membership and its activities.*)

Founded in 1979, the American Vintners Association (AVA) — formerly known as the Association of American Vintners — has in the last two years evolved into the only national trade organization of American wineries. With 375 winery members, AVA has responded to the growing need within the wine industry to unite and mobilize a grassroots network.

From its inception, the AVA has been committed to democratic principles; each member, regardless of size or location, has an equal vote and is entitled to equal representation. A dues cap ensures that the largest wineries cannot dominate the AVA agenda.

This fully democratic structure is fundamental to AVA's mission: "To enhance the public perception and business environment of American winegrowing through marketing, public information, and grass-roots government initiatives."

AVA's strength is its broad-based coalition: — it represents wineries in 36 of the 44 American wine-producing states. Each AVA member benefits from AVA's collective access to 145 congressmen and 72 senators.

In AVA's diversity is its strength; members come from Washington to Florida, from California to Maine. The second largest winery in the U.S. and some of the smallest wineries are members; some of the oldest as well as the most recently bonded wineries are members.

Regardless of member diversity, all AVA members share an unshakable belief in the social value of table wine as the true national beverage of moderation.

Member vintners say AVA works for them. "To me AVA is a small miracle," says Bob Russell, owner of Westport Rivers Vineyard/Winery, MA. "Because of AVA, there's finally a recognition that there are many winemaking regions in the U.S." Almost ⅓ of AVA members are in California, while three members are in Massachusetts. The organization's momentum continues to grow as 55 wineries from eight different states have joined AVA in 1993. Membership is predicted to grow beyond 500 vintners by the end of 1994.

AVA serves its membership by: 1) providing competitively-priced services that allow member wineries to compete successfully in their respective marketplaces; 2) mobilizing AVA's grass-roots network to influence key decision makers on the federal level; and 3) funding highly targeted research projects that assist in profiling and understanding wine consumer markets.

Smaller wineries benefit from the savings accrued from AVA mass buying programs that are made possible to a large extent by the participation of some of the larger member wineries.

Membership services

AVA services are often the main reason a winery — especially a small or mid-sized winery — initially joins AVA. "AVA services place wineries in a cost-competitive position," says Charlie Tomasello, President of Tomasello Winery, NJ. "As a small winery owner, the savings I achieve from services received exceed what I pay for AVA membership."

- **Winery Insurance**

Almost half of the AVA membership is insured through the AVA insurance program, available for over a decade from Royal Insurance. All sizes of wineries ranging from small start-ups to the second largest U.S. wine producer are insured through the AVA program.

Because of the insurance administrator's emphasis on slow and steady growth, the AVA program has declared dividends to all participants in the last two consecutive years of 12% and 16%, respectively. Of the total dividend, 25% is returned to AVA to support its industry activities while the remaining 75% is returned to the participating insured wineries.

AVA offers a full line of both property and liability insurance, including a property program tailor-made for the wine industry inclusive of wine leakage and spoilage. Additional coverage is available for library inventory, trellises and vines, and mobile agricultural equipment.

The liability insurance portion covers liquor law, festival and wine tastings, vineyard chemical drift, and other liabilities.

AVA members are also offered such options as comprehensive auto insurance, workers' compensation (in most states), and a commercial umbrella that provides additional liability limits over and above primary liability limits.

- **Free ATF label approval service**

The BATF has established a two-day review cycle for all labels submitted by the free ATF Label Walkover Service. Thus, labels that are received and pre-screened by AVA on Monday are generally approved by BATF on Thursday of the same week. Since the same BATF specialist reviews all AVA-submitted labels, service is unusually prompt and consistent.

Members can call toll-free for immediate and helpful assistance from AVA on all label questions. Information and tips on BATF label approval are sent to all AVA members on a regular basis.

- **Discount merchandise**
- **Long-distance telephone**
- **Rental car programs**

These three programs were developed recently in direct response to member needs. The Merchandise Program offers a catalog of 34 competitively-priced tasting-room and custom-imprinted items, such as corkscrews, aprons, tee shirts, etc. Collective buying power is also the secret behind the 10% to

25% member discounts available through AVA's long-distance and rental car programs. The average small winery can save over $50 per month on its phone bill.

Legislative representation

AVA is dedicated to the pro-active representation of the American table wine industry. The AVA legislative strategy is straightforward: 1) lobby consistently on specific issues and, 2) communicate to key decision makers on Capitol Hill 'the positive story' of wine and wine producers.

"It has been important to have a voice representing all wine producing states in the country and AVA has done that job well," says Marvin Sands, Chairman of Canandaigua Wine Company, NY.

• **Lobbying in Washington, D.C.**

The following two issues — one recently resolved (user fee) and the other under debate (excise taxes) — demonstrate how AVA's grass roots network in conjunction with staff counsel, Robert Kalik, solves problems.

AVA was the lead trade association in the fight against the $50 BATF label approval user fee (a proposed item in the 1994 Congressional budget). AVA successfully argued that the wine industry in general already pays more than its share in Special Occupational Taxes (SOT) and excise taxes, and that private-label wineries, in particular, might be forced out of business if this user fee had been enacted. AVA quickly mobilized key members in the states of New York, Oregon, Washington, and Texas to flex their collective legislative muscle. As a result, the entire wine industry benefited from this victory.

Following elimination of the fee, the weekly industry newsletter, ***Beverage Alcohol Market Report*** reported: "The initial provision for wineries to pay a $50 fee per label to get approval from BATF failed. General opinion is that the plan was defeated because of intense lobbying of Senate Finance Committee chairman Daniel Patrick Moynihan (D-NY) by NY state wine industry interests and trade associations including the American Vintners Association."

Many have suspected that an increase in excise taxation would be a part of President Clinton's new health legislation. In response, AVA employed a variety of strategies to persuade key decision makers in Washington, D.C., that inclusion of wine in any 'sin tax' proposal to pay for health care reform would be counter-productive, particularly given table wine's increasingly visible role in preventing cardio-vascular problems.

AVA led a massive "Fight Excise Taxes on Wine" letter-writing campaign to The White House. Not only did the campaign generate hundreds of letters to The White House, it also encouraged vintners from across the country to use AVA as an informational clearing house regarding similar efforts within their own wineries and communities.

Concurrently, AVA commissioned a study by a team of leading health care researchers entitled, "The Health Benefits of Moderate Wine Consumption." This study discussed the positive health benefits of moderate wine consumption: it estimated that 34,000 deaths from coronary artery disease and 1.1 million hospitalizations might be prevented if half of the Americans that do not consume wine were to drink an average of one glass of wine per day.

The study was circulated to all 200 members of the White House Health Care Reform Task Force and ultimately generated an encouraging letter to AVA from Treasury Secretary Lloyd Bentsen suggesting the very likely exclusion of wine from further excise tax increases.

The remainder of the year promises to be busy for AVA on Capitol Hill. Ongoing issues include the SOT, rotating warnings, the Market Promotion Program (MPP), U.S. Dept. of Agriculture and the wine industry, and of course the perpetual threat of increased excise taxation and ever greater regulation of the wine industry.

Although AVA's efforts are specifically targeted at the fed-

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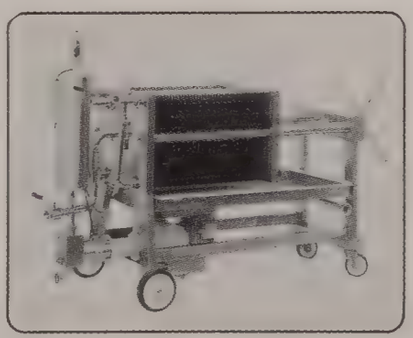

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eral level, AVA recently created the National Council of State Wine Organizations. Many states have their own trade association, which have historically operated independently of other states. The mission of the Council is to provide a forum in which issues of mutual concern can be addressed by AVA and state wine organizations, and to build a unified voice for the American wine-growing industry.

One of the first issues of the Council is reciprocal wine shipment. Through its chairman, Bill Nelson of Oregon, the Council prepared a plan that involves enhancing the communication and coordination among wine producing states to further reciprocal shipping.

It should be stressed that AVA's mission is pragmatic and its methods inclusive of all like-minded trade organizations. AVA shares reciprocal membership with the Winegrape Growers of America and its affiliates in many states (including California Association of Winegrape Growers in California). AVA has embarked on pilot joint membership drives with the Family Winemakers of California and the New York Wine Producers Association in order to further strengthen its bonds with state groups.

AVA regularly exchanges information and coordinates strategy with the California, Oregon, Washington, New York, and other wine institutes.

• Communicating the positive story of wine and wine producers in Washington, D.C.

One of the most effective ways that AVA communicates the positive story of wine and wine producers is through wine tasting events for Congress and key government officials. At these tastings, AVA creates a casual environment whereby Congressmen and women can interact directly with AVA members from their districts, while also enjoying an impressive variety of American wines. Key legislators not only take great pride in their local wineries, but, perhaps more importantly, they come to recognize that wine is an agricultural beverage; a truly pan-American product.

Recently, over 300 members of Congress attended a tasting held on Capitol Hill at which AVA members from 20 states supplied and poured most of the wine served. Following a major wine gathering during the 1993 American Wine Appreciation Week, AVA members held private meetings with over 140 legislators.

Education and research

"The future of the wine industry lies in making wine a more important part of life, and we can't solve that with just lobbying," explains Jack Davies owner of Schramsberg Vineyards, CA and Chairman of the AVA Education & Research Council. "You can't carry out effective marketing without research and learning how wine is perceived by our society."

Public perception, after all, drives public policy. AVA believes that the American table wine industry has nothing to hide; in fact, it has everything to gain by legitimately positioning table wine as the true American beverage of moderation.

Under the stewardship of Jack Davies, the Council serves as the marketing arm of AVA; its goal is to develop and disseminate factual information about wine and wine producers. Bolstered in 1993 with funding approaching $100,000, AVA, via the Education & Research Council, has embarked upon, what many industry insiders consider, a long overdue series of studies of the wine market and consumption patterns. Some questions being explored are: Why do certain ethnic groups not drink wine? What regions drink more wine — or less wine — and why? Information gathered by these studies may eventually be incorporated into public relations campaigns.

Over the next several years, the Council is expected to continue its work to describe new consumer markets. All of the Council's findings will be provided to AVA members to help them with their individual marketing efforts.

Conclusion

American wineries join AVA for different reasons. AVA re-

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mains dedicated to the continued visibility and viability of the American wine industry.

Like Robert Mondavi of the Robert Mondavi Winery in California, most American vintners understand that wineries must work together to ensure the near-term survival and long-term expansion of the American wine industry. "We believe in AVA," says Robert Mondavi. "We're proud to be members and strong supporters of the organization." ■

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Profile: The national trade organization of American wine producers representing 375 wineries in 36 states.

Mission: To enhance the public perception and business environment of American winegrowing through marketing, public information, and grassroots government representation initiatives.

Strategy: Employ the grassroots strength of the AVA network to fight legislation that places an unfair burden on wine producers. Provide access to group buying programs to help wineries remain competitive and profitable.

Benefits: Effective legislative representation; cost-competitive membership services; focused education, research, and marketing efforts.

For more information on AVA membership, contact:

American Vintners Association
1850 K Street, NW, Suite #500
Washington, DC 20006-2296
tel: 800/879-4637, fax: 202/778-8087

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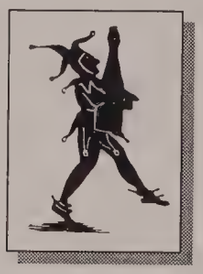

By Jake Lorenzo

Weddings

Every parent thinks his or her children are special, well-adjusted and well-meaning. Parents believe this to be true, no matter how weird, wild or rebellious their children's behavior. With Jake Lorenzo's daughter, however, we definitely have that rarest of all children: a truly special, well-adjusted and well-meaning child — ask anyone.

My daughter, Jakelyn Lorenzo, was married recently.

Marriage remains one of the truly mythical, mystical rites in our jaded modern society. It is loaded with meaningful moments from the walk down the aisle and the vows to the first dance. The time leading up to a marriage, however, especially the week preceding the actual nuptials, is one of unequaled tension and stress.

Jake Lorenzo knows this to be true, because on more than one occasion, I had to coax Jakelyn's mother down from the ceiling after she had gone off like a rocket over some insignificant point of contention.

Jakelyn, on the other hand, was the picture of focused good cheer. Jakelyn, who as a child, did not strike me as overly sentimental, did have this habit of buying wedding books and planning her wedding as soon as a boy asked her out on the first date.

Fortunately, for old Jake, she grew up in a house of brutally funny sarcasm. No one was spared, and Jakelyn, in self-defense, developed a sarcastic, quick wit that she unleashed upon her teenage suitors whenever they behaved in some typically adolescent manner.

Teenage boys may be a lot of things, but they are certainly not ready to take inventive, hilarious tongue lashings from their young dates. Jakelyn rarely went on second dates despite being the cute, vivacious cheerleader that she was.

For her wedding, Jakelyn had planned things down to the last detail. There were to be eight children in the wedding, six of them under age five. Twelve adults would march down the aisle in front of her. The boys wore matching vests and shorts sewn by Jakelyn. The girls and all bridesmaids wore dresses sewn by Jakelyn. The groomsmen, fathers, and groom all wore matching ties sewn, of course, by Jakelyn.

Despite her calm outward appearance, Jakelyn evidently suffered some stress of her own. For weeks before the wedding, she fought a persistent bronchitis, which sapped her strength and caused her to lose 10 pounds, weight she could ill afford to be without. This weight loss led to the incident that I most remember.

Three days before the wedding, I sat on the porch with my daughter, who calmly spooned birdseed into satin roses (sewn by Jakelyn), while inside the house, Jakelyn's mom, aunt Vivian and cousin Maya had ripped the hand-made wedding gown into four separate pieces and were trying to put it back together so it would accommodate her weight loss.

Jakelyn conversed with dear old dad, poured birdseed into the satin roses, (and all over the damn porch), and calmly went into the house every 15 minutes for yet another fitting. It was a stunning display of courage.

She chose to have the wedding at Gundlach Bundschu Winery. Lance Cutler performed the nuptials. The kids cast rose petals. The food, music and flavor were decidedly Cajun, reflecting her schooling at Loyola University in New Orleans. More than 300 of our good friends from across the country attended.

Jakelyn was the beautiful bride. Her groom was left speechless, watching as she walked down the aisle. Even hard-bitten Jake Lorenzo, private eye, had a catch in his throat and some mist around the eyes.

The party after the ceremony was terrific. Chuy Palacios catered. The hit of the evening was either the Mexican-flavored, Cajun fried turkey or the six-foot by three-foot wedding cake laden with 20 pounds of fresh berries.

The defining moment of the event came as I stood in the food line, behind the bride and groom. Jakelyn had stopped, and was talking to the girl serving the Cajun fried turkey. Behind Jakelyn stood her husband, Robbie. The young man serving the salad gazed down on Jakelyn's breasts as he absentmindedly piled more and more salad on Robbie's plate. Finally, Robbie nudged Jakelyn and said, "Let's get a move on, my plate won't hold any more salad."

Jake Lorenzo had to smile. I hadn't lost a daughter. I had gained a son.

* * *

Later, basking in the after-glow of the wedding and enjoying the peace and quiet of a finally empty house, Jake Lorenzo sits thinking about vineyards. Vineyards are like children in that every farmer thinks his vineyard is special, producing the finest grapes, capable of making the best wine.

Winemakers know that grapes are the raw product from which they work their magic, and they remain confident of their abilities to work with these grapes to make fabulous wines.

Jake Lorenzo drinks wine every day, usually more than one bottle. It seems to me that since 1987, most wines are thinner than they used to be. There's generally, less tannic backbone, and less intensity of fruit.

Wines are all starting to taste the same.

Wine writers blame this phenomenon on shared information in the industry. They imagine winemakers, all trained at Fresno or Davis, copying the same techniques to achieve roughly the same results. Fining methods, and especially filtration regimens, are named as culprits. I think this is ridiculous.

Grapes are the source material from which wines are made. The reason winemakers are so free with their methods is that they know duplicating the methods cannot overcome the unique character of the individual vineyards. "You can copy my methods, but my wines will still be different, because they come from different grapes."

Yet, I must agree, wines are starting to taste more and more alike. When I attend one of those gigantic tastings where over 100 wines are being poured, I rarely find anything that pops

out as terrific. Nowadays, it's all I can do to find a couple that will entice me to have a second glass. Granted, 1988 and 1989 weren't great vintages, but this mediocre uniformity is starting to show in the 1990s, a supposedly great vintage.

Jake Lorenzo says, "Forget the winemakers. Stop talking about filtration and fining. Go back to the vineyard."

Ten to 15 years ago, wines may have lacked finesse, but they were loaded with character. Crops were kept small — around three tons/acre. Most vineyards were dry-farmed or used a single, deep-soak irrigation from overhead sprinklers.

Now, everyone has drip irrigation. Put the water to the vines. Manage the canopy. Increase the yield. Trellis. Strip the leaves. What a crock.

Jake Lorenzo would like to suggest that drip irrigation is slowly ruining the character of California wine. If you think California wines are losing their character and their intensity, if you think the wines are all tasting alike, then look for the cure in the vineyard, not the winery.

Farmers, do me a favor. Sit down with your winemakers and taste the wines made from your grapes. Taste those wines back to the late 1970s. Allow for the vagaries of vintage and ageing, but truthfully evaluate the character of those wines. If you see a loss of intensity, I think you will be able to relate that loss to when the drip system was installed. Is there a correlation? I bet there is.

Be honest. The future of your industry is at stake. If I'm right, correcting the problem is simple. Figure out better ways to manage your irrigation systems. Devise them to produce character and intensity instead of textbook numbers and increased yields.

Yes, it's a radical notion. Think about it. Consider it a wedding present from Jake Lorenzo. ■

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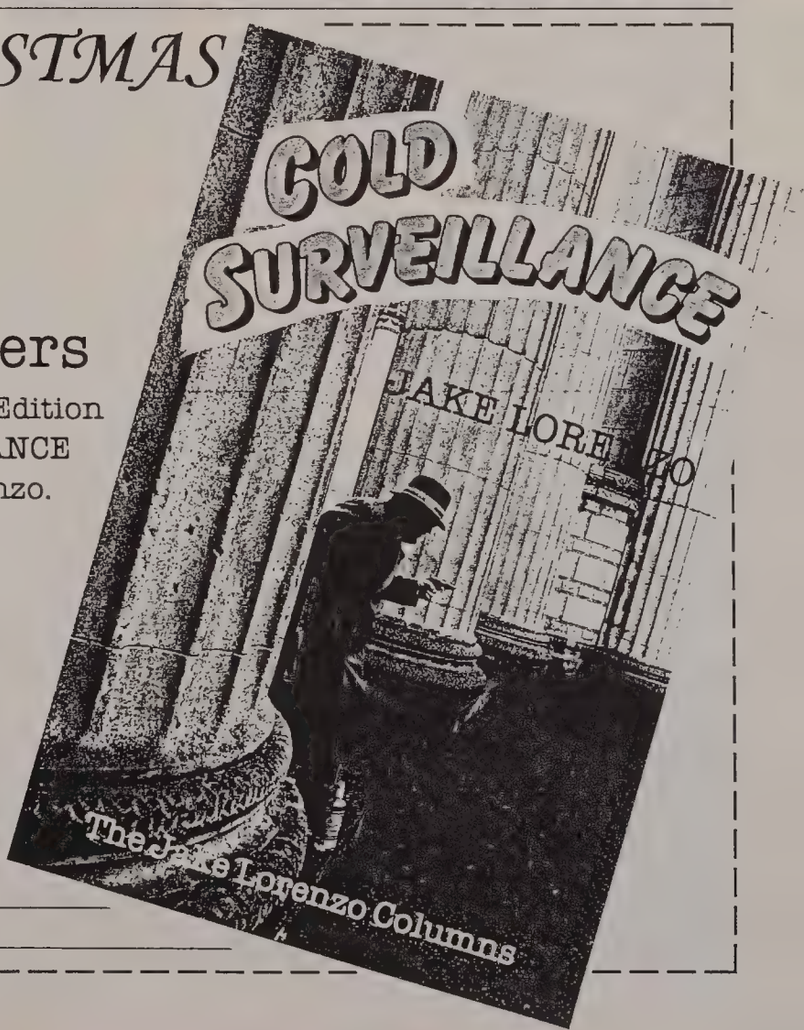

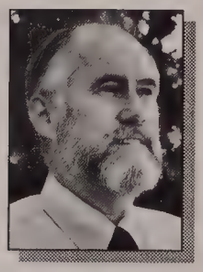

By D.R. Storm, PhD, P.E.

Good parking karma: a temporary condition

I have been told by several passengers on my ventures into urban California that I possess good parking karma. It does happen often that, when I need it, a legal parking space miraculously appears, usually within easy walking distance of my ultimate destination. To hardened inner-city types, these events are nothing short of supernatural.

When I'm invited to business lunches or social events in San Francisco or Sacramento, and I am asked to be the designated driver, I'm never sure if it is my special driving skills, unpretentious vehicle, or my ability to attract empty parking spaces that makes me the chauffeur of choice.

But just as basketball superstar Michael Jordan's scoring ability can sometimes be inconsistent, my good parking karma can be fleeting and elusive. After a nearly 14-month run of greater San Francisco Bay area parking slam dunks, I hit a definite black hole on San Francisco's Arguello Boulevard near Golden Gate Avenue, garnering a parking ticket for two inches of driveway encroachment 'and' the loss of four hubcaps to person or persons unknown.

My plea to the Municipal Court that the auto behind me had nudged me into the red zone fell upon deaf ears, and the hubcap replacement was under the insurance deductible. Since that unhappy day, I have been boning up on parapsychology and how to recharge clairvoyant powers, hoping to restore my good parking vibes.

The only rational reason that emerged to explain the lost power was that transference had occurred and that someone close to me may now possess the parking space talents. My spouse and springer spaniel have failed the test, however, so to whoever has acquired the awesome power, my advice is — avoid driveways, cramp your front wheels to the curb, and get locking hubcaps.

New lubricants and fuels may save you money

Benefits and concerns about environmentally friendly engines, fuels and lubricants

Higher and ever higher emission standards for engine driven vehicles and machinery are the driving force behind functional changes in engines and the subsequent new fuels and lubricants necessary to meet the higher operating temperatures and special design features of year 2000 pistons and combustion chambers.

Non-hydrocarbon-based synthetic oils have already made their appearance. Those eye-catching television spots which show a warehouse full of new engines filled and drained of conventional fossil fuel-based oil and then left to run along side one engine filled and drained of synthetic oil which goes on running smoothly long after every other engine is seized up and smoking, do not appear to be a technical exaggeration by the manufacturer.

The construction industry and other industries requiring vast fleets of engine-driven equipment are most interested in how advanced fuels and synthetic lubricants will affect their overall competitiveness and bottom-line operating costs.

Any operating entity with farm machinery (vineyards) will be affected. Maintaining a winery's rolling stock for the least dollar expenditure is ***always*** important.

How it works

The redesign of engines to decrease the discharge of nitrogen and sulfur oxides, carbon monoxide and particulates has centered on the changes in air-fuel mixture, the timing of combustion and the shape of the combustion chamber.[1]

For example, the top compression ring on the piston has been moved up 15 millimeters, which subjects the ring to much higher operating temperatures than in any previous engine configurations, so synthetic oils have been formulated to operate without loss of lubricating efficiency at much higher temperatures. The higher ring location permits more efficient removal of unburned fuel residues from the cylinder wall.

However, the unburned fuel residues, which had previously been purged as particulate matter in the engine exhaust, fall into the crankcase sump under the new design, where if not removed by filtration, they become a potential contaminant to coat the piston and piston ring grooves, reducing engine performance.[2] Thus attention to filter maintenance and replacement becomes even more important for the reduced pollution-design engines.

While it was sufficient, in the past, to look at only viscosity (the common SAE numbers printed on engine oil containers), now so-called service classification numbers, as designated by the American Petroleum Institute, will also have to be considered. They must conform to the manufacturer's recommended service classification minimum for the engine in question.

Benefits to vintners and growers

Reformulated gear oils allow a longer operating period between changes. Extended duty cycles for synthetic gear oil from 50,000 miles (current with petroleum oil) to 250,000 miles are possible with the higher performance lubricants. A winery buying mechanical/hydraulic equipment will find that warranties will be extended considerably, with the usual escape clauses for failure to follow recommended maintenance schedules.

In addition, synthetic motor oil, automatic transmission fluid, gear oil, and hydraulic fluids are now available in biodegradable classifications. Small spills will not adversely affect ground or surface waters, claim the manufacturers.

Diesel fuel standards are being revised upward nationwide to reduce smoke and particulate emissions. Starting in October 1993, the sulfur content of diesel fuel cannot exceed 0.05% by weight. The Los Angeles critical air basin has had the low sulfur requirement since 1985.[3]

While the 'clean fuel' restriction applies only to on-highway

equipment, most producers of diesel fuel will not produce two classes of fuel; thus the cleaner fuel will be used in vineyard tractors earlier than the 1996 target date set by the Environmental Protection Agency (EPA) for off-highway equipment.

If catalytic converters and automobile smog control devices are any indication of air quality management history, the trade-off for cleaner air may be higher operating costs. Synthetic oil, grease, hydraulic fluids, and low diesel fuel cost more, but if engines can be made to last longer, then annualized costs may be lower than at present — no one has the operating experience to make that judgement yet. ■

David Storm is a Consulting Civil and Sanitary Engineer and owner of Winters Winery.

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By R. Corbin Houchins

Developments in distribution law

Last summer (1993), a California trial court's damage award in the Glen Ellen Vineyard & Winery — JFJ Bronco Winery litigation spawned conflicting press releases and much discussion in our industry over who won and who lost.

The case is unusual for involving two distinct business relationships. Bronco acted both as a distributor of Glen Ellen wines and as a supplier of bulk wine to Glen Ellen.

To some extent, the confusion was due to the court's setting off damages suffered by Bronco as a terminated distributor against damages caused Glen Ellen by Bronco's failure to deliver bulk wine. By reducing the allowable amount of other party's claim based on goods paid for but not delivered, a party ordered to pay money could nevertheless claim victory.

Unexpressed expectations

The interesting part of the case has to do with the validity and value of the wholesaler's expectation to continue purchasing the product. Glen Ellen and Bronco had a written agreement for bulk wine sales, but no document defined Glen Ellen's right to discontinue sales to Bronco as a wholsesale customer. The jury found that Bronco was entitled to an award of damages for the discontinuance, though not as much as the former distributor had claimed.

Some observers discern trends in the way courts treat distributor expectations that are not spelled out in a written agreement. The next Wine Lawyer column will review Glen Ellen — Bronco and other developments in that area since the 1985 three-part distribution series in ***PWV***. For now, here is an introduction noting three salient points especially relevant to wineries that do not have distribution agreements with unequivocal termination clauses.

Point #1 is that, in recent years, the law of commercial sales, in particular sales between manufacturers and dealers, has developed in cases involving manufacturers with much greater bargaining power relative to their customers than is usually the case with wineries. Much of the current case law, and all of the special wholesaler legislation that modifies the so-called Uniform Commercial Code (UCC), purports to redress the imbalance between a large producer or importer of brand name goods and a local business that relies on sales of that brand for its survival.

In the traditional, some might say dog-eat-dog, analysis, the manufacturer could declare, "I made and own this product. If someone offers to buy something I own from me, I can sell or not as I choose, whether it is a warehouse full of consumer goods or my toothbrush. If we do agree on a price and I make a sale, and the buyer comes back to me next week wanting to buy again, I have the same freedom to deal or not, unless I have bargained that freedom away by making an express or implied agreement to fill future orders."

As the courts' late 19th-early 20th century passion for unbridled free enterprise waned, the burden on a buyer attempting to establish an implied agreement to fill the next order diminished. Commercial law cases and the statutory law of sales found implied supply contracts of indefinite length in a regular order history or in expressions by the manufacturer implying a continuing relationship (e.g., 'appointing,' rather than merely selling to, someone).

When the UCC began extending a single law of sales throughout the United States in the mid-1960s, it was well accepted that unwritten agreements might arise between seller and buyer by virtue of their historical course of dealing and that the agreements might require successive performances.

'Successive performances' by a winery means filling orders. Where there is no written agreement, or the written agreement does not dispose of the issue, past willingness to fill orders and/or loose language about representing a brand may be sufficient to obligate the winery for an indefinite period.

How does it end?

Absent occurrence of an event that the parties have agreed will end the contract (such as the passage of a predetermined period of time) or that the law identifies as adequate cause to end it (such as breach by the other party of a material term, which normally includes the obligation to pay for the goods on time), the agreement may be terminated by either party at any time, but only upon 'reasonable notice.'

The dreaded term 'reasonable' tends to enter the picture whenever parties to a commercial relationship do not put the essential points in writing. It is an expensive interloper, since whenever enough money is at stake to make the effort worthwhile, people can differ at length over what is reasonable and often bring their differences before a court for resolution. Most supplier-dealer litigation is over how much notice of termination of the agreement to render successive performances was reasonable under the circumstances.

'Notice of termination' brings up **point #2**: Disputes over notice periods are not really about notice but about money, usually money owed to a winery that will never be paid.

The statutory paradigm for termination is that the supplier decides, for whatever reason, to discontinue successive sales, gives the buyer notice that on a certain day, far enough in the future to allow the buyer to arrange another source of supply, no more orders will be accepted, and the relationship continues as before until then.

In wine distribution, the supplier can be sure that cessation of promotion or worse will occur during any period of continued sales following notice of termination. Thus, the real question is how much money a distributor (that has not defaulted on any material promise) is entitled to in lieu of the right to purchase the product during the notice period.

The common sense answer is to deduct from the distributor's current account the amount of money the distributor would have brought to the bottom line from sales of the brand during a reasonable notice period, and settle the remaining amount in cash.

Unfortunately, sensible approaches are not the only available avenues in our justice system. We see protracted battles over what is called the notice period but is really an enquiry into what the distributor should justly receive for giving up the brand when the winery cannot establish that the distributor's performance of its duties was deficient.

Point #3 is that while there is a trend for distributors to see the wisdom of a written agreement, there are still many wholesalers who prefer to leave everything on a handshake and hold open the option of arguing one of the innovative damages theories that have been cropping up of late. In that event, the winery is put to the choice of refraining from selling to that customer or adopting some means of countering the wild card legal theories without a signed contract.

In the next column, unless the space is preempted by something remarkably intelligent or otherwise about health and nutrition information on wine labels from BATF (which was reaching new heights of bureaucratic doublespeak on the issue at press time), we will look at whether courts, even in states without special wholesaler legislation, are creating new law by finding distributor equity in the goodwill of wine brands and at some measures wineries can take to minimize the risk. ■

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WINNING PROFITS WITH GUERRILLA MARKETING

Marketing competitive advantages

By Jay Conrad Levinson

Many of today's wines are so similar to each other that the only difference is in their marketing. They try to woo new customers with special effects, gimmicks, discounts, sales, and fancy production.

These marketing devices are a final refuge of people with limited imaginations. Although there is little question that they can help, a serious guerrilla knows there are other — far more potent — marketing weapons.

The most important of these weapons are competitive advantages. If your wine is more flavorful, expensive, inexpensive, or unique in any way, you don't have to stoop to using gimmicks. Jingles will get in the way of clarity. Just the truth will do very nicely, thank you.

Perhaps you have a plethora of competitive advantages. The only ones that can be translated into instant profits are the marketable ones. A new kind of technical equipment, unless it is a dramatic advancement, will probably only bore your prospects.

The idea is to identify your marketable competitive advantages, then concentrate solely upon those. If you don't have any marketable competitive advantages, realize that a smart guerrilla creates them or discovers them.

The area most fertile for creating a new competitive advantage is service. There are many automobile detailers in my area, and all charge about the same price, do about the same job. Why did I pick P&H Class Details to detail my car yesterday? Because they make house calls.

I didn't have to invest one second of my precious time attending to the details of detailing. Instead, I made a phone call, and P&H took over from there. I was dazzled by their competitive advantage, though they didn't have that advantage when they started in business.

They surveyed the competitive scene, then invented their competitive advantage and advertised it. That's exactly what I'm recommending to your winery.

See what your competitors are offering. Buy their wines. Discuss them with retailers. Keep an eagle eye out for areas in which you can surpass them, especially in service. Perhaps you can offer retailers faster delivery, on-site services, gift wrapping, more frequent follow-up, training, the possibilities are

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MARKETING

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(Jay Conrad Levinson is the author of several guerrilla marketing books and ***The Guerrilla Marketing Newsletter****. To request a free catalog, call 1-800/748-6444 (In CA, 415/381-8361).*

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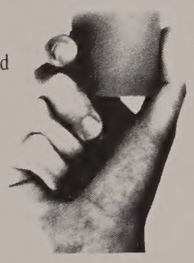

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